

The Styles and Distributions of Chunkey Stones in the Eastern Woodlands

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1. Chunkey and Discoidals

From the Spiro site of Oklahoma to the Town Creek Indian Mound of North Carolina, and from the Aztalan site of Wisconsin to Moundville, Alabama, and at a great number of other sites in between, archaeologists have recorded a class of artifacts commonly referred to as ‘discoidals’. A discoidal is a roughly wheel shaped artifact with two faces, an edge/rolling surface, and oftentimes a distinct rim, with many variations on each aspect of this basic geometry. Observation of discoidals and speculation about their use dates back to some of the first archaeological reports authored in the United States (Squier and Davis 1848, Jones 1873).

Even in these early days of American archaeology, researchers were already identifying certain discoidals as ‘chunkey stones’, playing implements used in a particular tradition of indigenous games that are commonly grouped together today under the name of ‘chunkey’. This tradition, though less prevalent than it had been in the past, would still have been contemporary with the initial identification of some discoidals as chunkey stones by archaeologists (Halbert 1888, Cushman 1899), and continues to be practiced to the present day (Bark 2020).

Since the 1800s, the archaeological interpretation of the chunkey game tradition and the seemingly innocuous artifacts associated with it has advanced far beyond the simple identification of certain discoidals as chunkey stones. Excavations at Cahokia and other major Mississippian and Mississippian-influenced sites as well as deeper analysis of the historical sources relating to chunkey games over the past 50 years have provided a foundation for archaeologists to argue that these games played an important role in the political, economic, and religious landscapes of Eastern Woodland societies in addition to being a popular recreational activity (DeBoer 1993, George 2001, Pauketat 2004, Pauketat 2009, Bishop 2016, Zych 2017, see also Bryant 2019, Gregory 2020). Chunkey stones themselves remain the primary

archaeological signature of chunky games, and the increasing recognition by archaeologists of the importance of the chunky game tradition has highlighted the need for more in-depth studies of these artifacts. To this end, a stylistic and distributional study is conducted here on a large sample of discoidals ($n = 266$) from across the Eastern Woodlands with the goal of systematically separating chunky stones from other types of discoidals and identifying styles of chunky stones and their approximate chronological spans and geographical distributions.

2. The Chunkey Game Tradition as Known from Historical Sources

Before proceeding, it is useful to situate this study in what is currently known about the chunky game tradition and the artifacts associated with it from historical sources. Zych (2017: 64-68) has already written an excellent summary of the game as known from these sources which should be referred to for a more in-depth discussion. Here it will suffice to cover only the major points.

A literature review found 12 passages on the chunky game tradition, dating from 1700 to 1899. Some pertinent information from these sources is summarized in Figure 1.

Peoples Named in Association with the Chunkey Games
<p>Houma, 1700 (Gravier 1902: 143-144) Eno, Early 1700s (Lawson 1709: 57) Shakori, Early 1700s (Lawson 1709: 57) Natchez, 1720s (Swanton 1911: 90, Le Page du Pratz 1900: 347) Overhill Cherokee, 1760s (Timberlake and King 2007: 38) Choctaw, various times (Adair 1775: 401-402, Romans 1776: 79-80, Halbert 1888: 283-284, Cushman 1899: 190) Chickasaw, Early 1770s (Romans 1776: 79-80) Muskogee, various times (Hawkins 1848: 71, Bartram 1849: 135) Mandan, 1830s (Catlin 1876: 132-133)</p>
Names Given to Chunkey Games
<p><i>Chenco</i>. Eno or Shakori, Early 1700s. (Lawson 1709: 57) <i>"The pole"</i>. Natchez, 1720s. (Le Page du Pratz 1900: 347) <i>"The cross"</i>. Natchez, 1720s. (Swanton 1911: 90) <i>Nettecawaw</i>. Overhill Cherokee, 1760s. (Timberlake and King 2007: 38) <i>Chungke</i>. Choctaw, 1740s-1760s. (Adair 1775: 402) <i>Chunké</i>. Chickasaw or Choctaw, Early 1770s. (Romans 1776: 79) <i>Thla-chal-litch-cau</i>. Muskogee, Late 1700s-Early 1800s. (Hawkins 1848: 71) <i>Tchung-kee</i>. Mandan, 1830s. (Catlin 1876:132) <i>Achahpih</i>. Choctaw, 1870s-1880s. (Halbert 1888:283) <i>Ulth chuppih</i>. Choctaw, 1880s-1890s. (Cushman 1899:190)</p>

Figure 1: Summary of information on the chunky game tradition from Euro-American sources.

Descriptions of Playing Implements
<p>“...a flat stone, which they throw in the air from one end of the square to the other, and which they try to have fall on two cylinders that they roll where they think that the stone will fall.” Houma, 1700. (Gravier 1902: 143-144)</p> <p>“...a Staff and a Bowl made of Stone...” Eno or Shakori, Early 1700s. (Lawson 1709: 57)</p> <p>“Each has a pole about eight feet long, resembling a Roman f, and the game consists in rolling a flat round stone, about three inches diameter and an inch thick, with the edge somewhat sloping...” Natchez, 1720s. (Le Page du Pratz 1900: 347)</p> <p>“...throwing at the same time many poles 15 or 16 feet long and as thick as a fist after a bowl...” Natchez, 1720s. (Swanton 1911: 90)</p> <p>“They have a stone about two fingers broad at the edge, and two spans round: each party has a pole of about eight feet long, smooth, and tapering at each end, the points flat.” Choctaw, 1740s-1760s (Adair 1775: 402)</p> <p>“...each player having a pole about ten feet long, with several marks or diversions, one of them bowls a round stone, with one flat side, and the other convex...” Overhill Cherokee, 1760s. (Timberlake and King 2007: 38)</p> <p>“...having each a straight pole of about fifteen feet long, one holds a stone, which is in the shape of a truck...” Chickasaw or Choctaw, Early 1770s. (Romans 1776: 80)</p> <p>“...a little ring of two or three inches in diameter, cut out of a stone, and each one follows it up with his ‘tchung-kee’ (a stick of six feet in length, with little bits of leather projecting from its sides of an inch or more in length) ...” Mandan, 1830s. (Catlin 1876: 132)</p> <p>“The achahpih poles were made of small, slender swamp hickory saplings, from which the bark was stripped, and the poles scraped down perfectly smooth and then seasoned over a fire. They were about ten feet long and the size of an ordinary hoe handle. The head or striking end of the pole (noshkobo) was made rounded. Near the head were cut around the pole four parallel notches or grooves. One-fourth of the way down were cut two more notches, and then a single notch around the center of the pole, making seven notches in all.” Choctaw, 1870s-1880s. (Halbert 1888:283-284)</p> <p>“...each having in his hand a smooth, tapering pole eight or ten feet long flattened at the ends. A smooth round stone of several inches in circumference was then brought into the arena...” Choctaw, 1880s-1890s. (Cushman 1899:190)</p>

Figure 1: Continued

Descriptions of Playing Fields
<p>“In the middle of the village a fine level square...” Houma, 1700. (Gravier 1902: 143-144)</p> <p>“...which they trundle upon a smooth place, like a Bowling-Green, made for that Purpose...” Eno or Shakori, Early 1700s. (Lawson 1709: 57)</p> <p>“...a well pounded and very smooth piece of ground, such as is found at the center of each village.” Natchez, 1720s. (Swanton 1911: 90)</p> <p>“They have near their state house, a square piece of ground well cleaned, and fine sand is carefully strewed over it, when requisite, to promote a swifter motion to what they throw along the surface.” Choctaw, 1740s-1760s (Adair 1775: 402)</p> <p>“...they make an alley of about two hundred feet in length, where a very smooth caly (sic) ground is laid, which when dry is very hard...” Chickasaw or Choctaw, Early 1770s. (Romans 1776: 80)</p> <p>“The ‘chunk yards’ of the Muscogulges, or Creeks, are rectangular areas, generally occupying the center of the town. The public square and rotunda, or great winter council house, stand at the two opposite corners of them. They are generally very extensive, especially in the large old towns. Some of them are from 600 to 900 feet in length, and of proportionate breadth. The area is exactly level, and sunk 2, sometimes 3 feet below the banks or terraces surrounding them, which are occasionally two in number, one behind and above the other, and composed of the earth taken from the area at the time of its formation. These banks or terraces serve the purpose of seats for the spectators. In the center of this yard or area there is a low circular mound or eminence, in the middle of which stands erect the chunk pole, which is a high obelisk or four-square pillar declining upwards to an obtuse point.” Muskogee, 1770s. (Bartram 1849: 135)</p> <p>“...and is played near to the village on a pavement of clay, which has been used for that purpose until it has become as smooth and hard as a floor.” Mandan, 1830s. (Catlin 1876: 132)</p> <p>“A level piece of ground is selected, and an achahpih yard (ai achahpih) is laid off, being about one hundred feet long and twelve feet wide. The yard is cleared off, tramped hard and made as smooth and level as possible.” Choctaw, 1870s- 1880s. (Halbert 1888:283-284)</p> <p>“An alley, with a hard smooth surface and about two hundred feet long, was made upon the ground.” Choctaw, 1880s-1890s. (Cushman 1899:190)</p>

Figure 1: Continued.

It is important to begin any discussion of the chunky game tradition as known from historical sources with the observation that these games appear to be a regional variation on the

“hoop-and-pole” game, a category defined by Culin (1907/1973) in his work *Games of the North American Indians*. Euro-Americans observed versions of this game all across North America, which on the most basic level involves a hoop made of one of many possible materials such as wood, ceramic, or stone being rolled, thrown, or otherwise used as a target for some type of projectile, usually a pole of various lengths. Zych (2017) notes that ‘chunkey’ came to be seen as a relatively well-defined subcategory of the hoop-and-pole game in the archaeological literature because of the distinct names used in indigenous languages for versions of the hoop-and-pole game that use a stone hoop, several of which sound similar when vocalized.

Even within this subcategory, however, the historical sources point to notable variation in the exact rules, playing implements, and playing fields. For example, in Figure 1, it can be readily observed that the size and shape of the poles and stones used in the game was different among different peoples (see Appendix A for full-length passages describing variations on the gameplay). Despite this, there are still clear points of agreement between cultures on the fundamentals of the game.

Chunkey games were played on a deliberately flattened and trampled field that could be several hundred feet long and was often in an important central location at a given settlement. This field may have sometimes been treated with sand to increase the speed with which the game stone would roll. Usually two, but possibly sometimes more (always male) players would play at a time, with one player tasked with rolling a stone down the field. The players would then throw their pole towards the stone with the goal of either hitting it, hitting the pole of their opponent, landing their pole nearer to the stone than any opponent, or landing specific markers tied to the pole near to or touching the stone, all of which would be counted for differing amounts of points depending on local rules.

Betting and wagering are also mentioned as a major feature of the game in many Euro-American accounts. James Adair and George Catlin provide two such passages on the role of gambling in chunky, and Dumont de Montigny, Le Page du Pratz, Romans, and Halbert mention the same topic.

In this manner, the players will keep most part of the day, at half speed, under the violent heat of the sun, staking their silver ornaments, their nose, finger, and ear rings; their breast, arm, and wrist plates, and even all their wearing apparel, except that which barely covers their middle. (Adair 1775: 79-80)

... it is a game of great beauty and fine bodily exercise, and these people become excessively fascinated with it; often gambling away every thing they possess, and even sometimes, when everything else was gone, have been known to stake their liberty upon the issue of these games, offering themselves as slaves to their opponents in case they get beaten. (Catlin 1876: 132-133)

While these likely represent more extreme instances of the betting associated with chunky games, it can still be concluded that wagers were an important aspect of the tradition, at least in its later centuries. It is important to remember, however, when drawing conclusions about the chunky game tradition from these accounts that all are written from a Euro-American perspective, which may favor emphasizing particular aspects of the games. If any indigenous historical sources could be added to this list, it would be a valuable addition to our understanding.

Regardless, it is clear from the historical evidence that games in the chunky tradition were played across much of the Eastern Woodlands at contact, and although different peoples played these games in their own ways, they seem to have been a major feature of life cross-culturally, with several sources explicitly mentioning that these games were a favorite activity played very frequently in conspicuous, central locations, and that the chunky stones associated with it were

well-curated community property passed down through time (1902, Lawson 1709, Adair 1775, Hawkins 1848, Catlin 1876, Halbert 1888). As the stones themselves are the best calling card of the game tradition in the archaeological record, it is to their study and interpretation that archaeologists have turned in order to learn more about the earlier history of this tradition of games.

3. The Last 50 Years of Interpretation

The groundwork for all recent studies of chunky stones was laid down, perhaps unexpectedly, in a 1971 site report written by Gregory Perino on the Schild site north of Cahokia. Working from Mississippian period excavations at Schild as well as observations of discoidals from other sites and regions, Perino established a typology of discoidals that he identified as chunky stones, which remains in use and largely unchanged today. This typology includes four types: Jersey Bluff, Salt River, Cahokia, and Bradley (Figure 2). The first two, the Jersey Bluff and Salt River types, were both dated to the Late Woodland period and are described as localized to particular regions near Cahokia in Illinois and Missouri, although Perino did identify an example of the Jersey Bluff type at the Spiro site in Oklahoma.

Perino's third type, Cahokia, is probably the most recognizable and widely cited type of chunky stone in the archaeological literature. Perino described this type as follows:

The 'Cahokia' discoidal is always relatively thin through the cups and has sharp to slightly rounded rim edges. In rare instances, it has a small perforation through the center; at other times, it is so thin that light shows through the center of the cups. They have almost flat to uniformly convex outer edges, broad, deep cups, and are made of quartzite, sugar quartz, diorite, granite, limestone, compact sandstone, and baked clay. (Perino 1971: 115)

Perino recognized that the Cahokia type was extraordinarily pervasive. In addition to the many fine examples from Cahokia itself, Perino referenced examples from Tennessee, Missouri, Arkansas, Ohio, Oklahoma, Louisiana, and Wisconsin. Interestingly, Perino notes that the Cahokia type "should not be confused with the much larger, unnamed Mississippian variety found at Etowah in Georgia and elsewhere in the south" (Perino 1971: 115-116). This point will be returned to later.

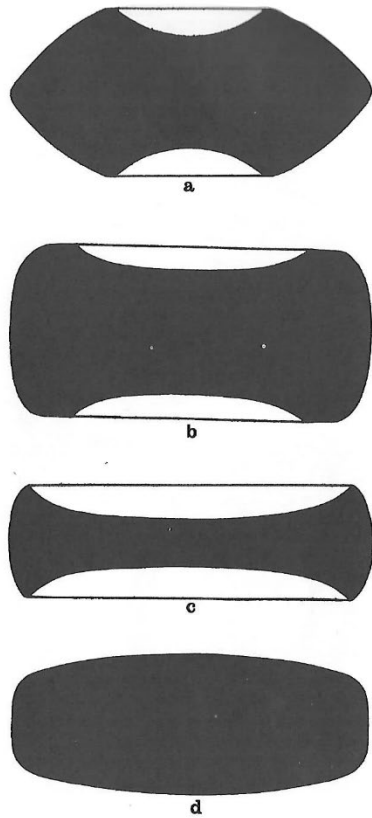


Figure 2: Cross section drawings of discoidal types. (a) Salt River variety. (b) Jersey Bluff Variety. (c) Cahokia variety. (d) Bradley variety (after Perino 1971 Figure 54)

Perino's fourth and final type, the Bradley type, was dated to the later Mississippian period and is primarily defined by having somewhat convex, as opposed to concave, faces. Perino argued that the Bradley type replaced and/or supplemented the previous three varieties in some areas (it is unspecified which) after 1350 CE, possibly due to a change in the style of the chunky game and continued to be used until early Colonial times. Steven Ozuk added a fifth type in a 1987 site report on the Range Site in St. Clair County, Illinois (Figure 3). This type, named Prairie du Pont, was defined as having flat/planar faces and resembling a biscuit. Several examples of this type were also perforated through the center. It is worth noting that the Prairie du Pont type was defined from only 7 examples and has been argued to simply be a variation of the Jersey Bluff type (Zych 2017: 69).

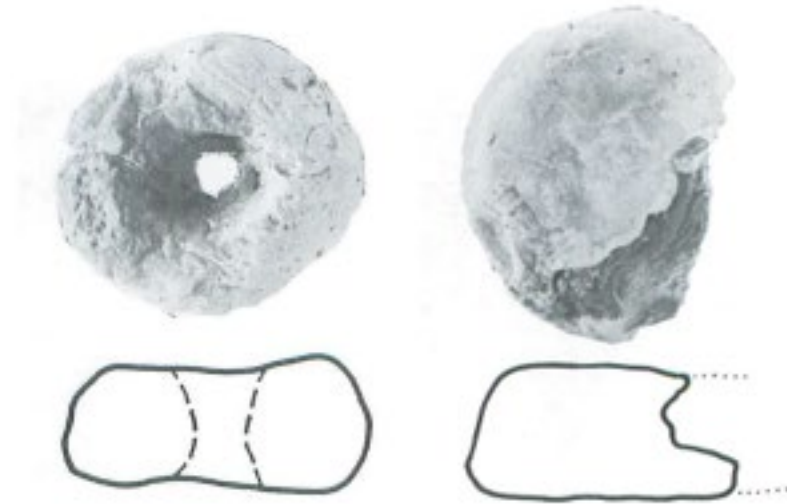


Figure 3: Discoidals classified as Prairie du Pont (after Ozuk 1987 Plate 29)

In 1993, Warren DeBoer published a seminal article that was the first to argue that archaeological investigations of chunky stones and the associated gaming tradition could be fruitful for understanding larger-scale political and economic trends in the Eastern Woodlands. Focusing in on the Greater Cahokia area, DeBoer collected a sample of 97 discoidals identified as chunky stones, most of which were excavated from sites around Cahokia such as Range, Sponemann, and Schild, as well as 14 discoidals from Mound 72 at Cahokia and a few from farther flung locations such as Aztalan in Wisconsin and Mill Creek sites in Iowa.

DeBoer classified the individual artifacts in his sample according to Perino's typology, time period, and provenience (midden or burial), and also analyzed differences in midden frequency, standardization, and rate of change between time periods. Starting with his analysis of types by time periods, DeBoer developed a seriation of chunky stones that appears to confirm some of Perino's observations (Figure 4). The Jersey Bluff and Salt River types, dated by Perino to the Late Woodland, are also largely relegated by DeBoer to the Late Woodland and Emergent Mississippian periods, while the Cahokia type appears suddenly during the third time period

(termed Classic Mississippian) which corresponds with Cahokia's peak, and declines in frequency in the subsequent fourth period in which Cahokia was gradually abandoned, while the Bradley type, which was completely absent in the first three periods, suddenly becomes the predominant form of chunky stone. Prairie du Pont appears only as a brief blip in the Emergent Mississippian period.

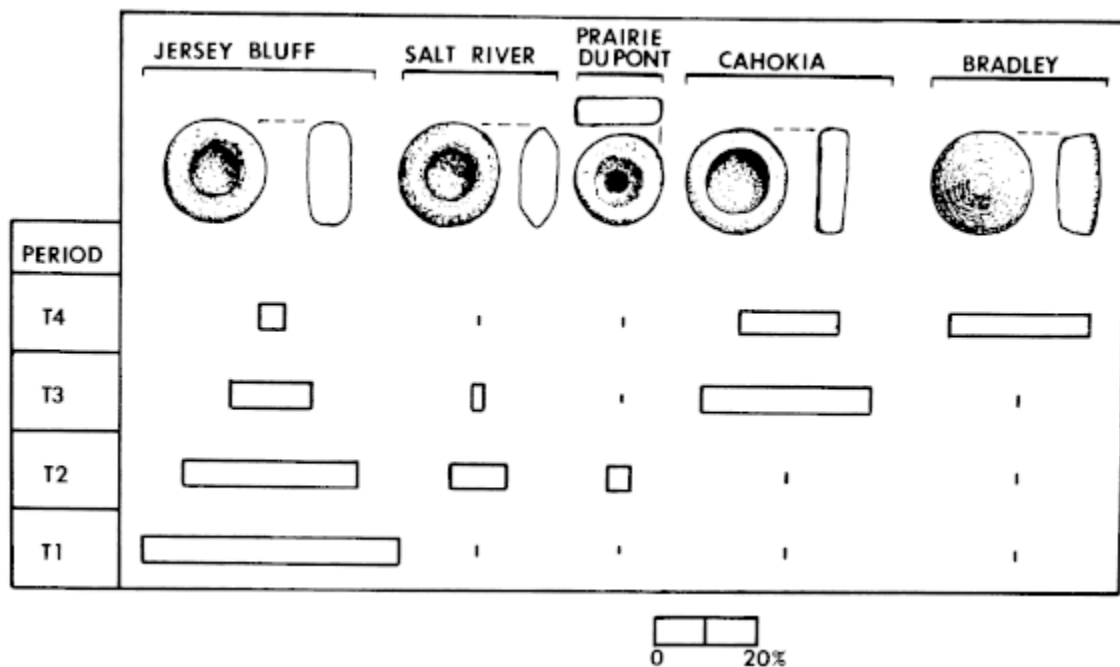


Figure 4: DeBoer's seriation of chunky stone types in and around Cahokia (after DeBoer 1993 Figure 6)

DeBoer's tracking of the relative frequencies with which chunky stones appeared in middens as opposed to burials also had an interesting result (DeBoer 1993: 88-89). In the Late Woodland and Emergent Mississippian periods, almost all chunky stones were excavated from middens. In the Classic Mississippian period, this pattern was reversed, with the majority of chunky stones being excavated from high-status burials, while in the period corresponding to Cahokia's decline, most chunky stones are once again provenienced to middens.

Unsurprisingly, the level of standardization, measured by DeBoer as the variability of the diameter, was also highest during the Classic Mississippian period, and the rate of change in type frequencies was highest in between the Emergent Mississippian and Classic Mississippian periods.

DeBoer used these various lines of evidence to tell a story about the role of chunky games in Cahokian politics (DeBoer 1993: 89-90). He argued that chunky started as a popular sport during the growth and consolidation of populations in the American Bottom but became increasingly controlled, standardized, and associated with elites and their burials during Cahokia's heyday, before largely returning to its original status after Cahokia's decline. DeBoer speculates that the Cahokian elite may have intentionally asserted control over chunky games as an attempt to centralize an important mechanism of economic exchange, as the games are frequently referenced in the historical sources previously mentioned as a popular avenue for bets and wagers, and perhaps more importantly, as a way to monopolize a legitimating symbol for their new and precarious political order.

Pauketat (2004, 2009) elevated the story of chunky to further importance in the archaeological interpretation of Mississippian culture with an argument that the game may have been employed by Cahokians to win the "hearts and minds of distant people" (Pauketat 2009: 20), and therefore would have played an important role in the process of Mississippianization. Pauketat's argument also rests on analysis of chunky stones themselves, which he believes appear as early as 600 CE in the American Bottom. Significantly, while chunky stones may be found at this early time in the American Bottom, they are not found elsewhere until after around 1050 CE, about the same time that Cahokia grew into a major city (Pauketat 2009). When they do begin to appear elsewhere, they often have a distinct appearance that matches that of the

Cahokia type as defined by Perino (1971), which to Pauketat (2004, 2009) indicates that Cahokians may have been taking them across the landscape in one form or another as part of the process of drawing people into Cahokia's sphere of influence.

As for how exactly chunky games may have helped to spread Cahokian influence, Pauketat (2009) mentions several features of chunky that may have worked to change the other societies that began to play the game in a way that brought them closer to Cahokia. For example, as seen in contemporary games and sports, the game may have played a major role in shaping community identities. Pauketat speculates on how the identities promoted by chunky may have been rooted in Cahokian culture:

Those identities, in turn, were tethered to deeper cultural meanings, memories, aesthetic sensibilities, and religious beliefs, many of which probably came from Cahokia. The game's sticks and stones, moreover, reaffirmed the relationship between the sexes and reflected the cosmos. Throwing a stick at a rolling disk was understood by adults to be a virtual sex act. Thus, chunky was also linked to certain creation-and-rebirth stories. The rolling chunky stone itself was sometimes specifically likened to the sun moving across the daytime sky, reflecting the belief that the cosmos was in constant motion, balanced between two extremes that could be represented by male and female, day and night, sky and earth, and life and death. As if to accentuate the idea that chunky was a microcosm of the greater cosmos, crosses were occasionally engraved on chunky disks representing the four directions or quarters of the universe. (Pauketat 2009: 23).

If chunky did indeed involve such symbolism, it is easy to see how the game would have been a powerful vehicle for Cahokian ideologies, intentionally or not, as it spread across the Eastern Woodlands.

More recently, Zych (2017) conducted a study to further explore the role chunky played in winning the "hearts and minds" of the people that played it, and how the game itself may have been changed by this process. Comparing samples of chunky stones from the American Bottom, Mill Creek sites, Monongahela sites, and sites around the western Great Lakes, Zych found that

some significant variation existed in the morphological attributes and sizes of chunky stones from these different regions, suggesting that the game was “(re)negotiated and (re)interpreted by new populations as it continued to spread across the Eastern Woodlands” (Zych 2017: 82). Zych (2017) points to specific features of the game as providing opportunities for people to make the game their own as it spread, but also for the game to reshape the communities that played it in turn and possibly incorporate them into a common historical identity. For example, chunky games may have changed communities by providing new opportunities for social mobility. Individuals who possessed specialized knowledge about how to play chunky games may have had opportunities for social advancement, opportunities which were also likely available to players who were particularly successful, or spectators who bet on the right player, or even entire communities who hosted games for/with other communities. On the other hand, certain other aspects of chunky would have allowed people to make the game their own. Playing chunky could have provided an avenue to build local history and meaning into the landscape through the construction and maintenance of “chunk yards” (playing fields) and could have been a way to recreate the past and display local historical identities during each chunky match, a process which Zych (2017) compares to similar processes present in contemporary spectator sporting events such as American Baseball and the Olympics. Yet even as people interpreted chunky in their own ways, the games continued to construct a new shared experience for ever greater numbers of people. This shared experience could have been linked to Cahokian identities, memories, and history, local identities, memories, and history, or some combination of both as it spread from community to community (Zych 2017).

In his analysis of his sample, Zych (2017) also argues for a reevaluation of the use of well-defined types in the study of chunky stones, especially outside of the region they were first

defined, as such types can cause archaeologists to make the mistake of “blindly attributing particular materials to specific chronological periods, or even specific cultural groups” (Zych 2017: 70). Although Zych does make references to Perino’s types, especially the Cahokia type, he opts to classify chunky stones according to specific physical attributes in order to highlight and examine their variation. These include the shape of the cups, rim shape, outer rim shape, material, and quantitative variables like diameter and depth of concavities (Zych 2017: 74-78).

The role of chunky when it comes to understanding changing cultural identities and cultural/economic exchange in the Eastern Woodlands is further demonstrated by two studies of chunky stone-identified discoidals in regions relatively distant from Cahokia and the American Bottom: George’s 2001 study of discoidals at Monongahela sites in southwestern Pennsylvania, and Bishop’s 2016 study of discoidals in north-central Alabama. George (2001), analyzing an assemblage of discoidals found at various Monongahela sites, found that a distinct local style of discoidal with many similarities to discoidals found at nearby Fort Ancient sites began to appear by the thirteenth century, which he believes indicates the spread of chunky to the area. This style was later supplemented by larger, more finely crafted “Mississippian biconcave” discoidals. George suggests that this shift corresponds with a “Late Prehistoric increase in trade between Mississippian polities to the south and west and their northern neighbors” (George 2001: 14) where trading for these exotic discoidals could have served to enhance the prestige of community leaders. This example is particularly interesting because chunky seems to have first appeared in this area during a time period that would correspond with the decline of Cahokia, and what George calls “Mississippian biconcave discoidals,” all of which he explicitly identifies as belonging to the Cahokia type, enter the area even later. There are many possible interpretations of this data. If George correctly identified these discoidals as Cahokia-type discoidals, it could

indicate that the Cahokia type continued to be used in certain areas long after Cahokia's decline. Alternatively, these Mississippian discoidals could represent a later development in the style originally used to indicate Cahokian chunky stones. These interpretations or any others have implications for the history and identity of the associated communities.

Bishop (2016) analyzes the manufacturing processes and uses of discoidals at the Self Creek and Ardell Bluff sites in north-central Alabama, two sites that coincide with the West Jefferson phase, a transitional period that straddles the line between Late Woodland and Mississippian. In an earlier study (Seckinger and Jenkins 2000) that also included an investigation of discoidals at West Jefferson sites, it was argued that Late Woodland people at the Steam Plant site were manufacturing stone discoidals to trade with Mississippian people at the nearby Bessemer site in what is termed a "plural society" where Mississippian and Late Woodland people co-existed and interacted. However, findings at the Self Creek site change the interpretation somewhat. The discoidals here (and, as Bishop argues, at the Steam Plant site as well) are not solely preforms and show evidence of use, wear, and possibly even ritualistic destruction in one case (Bishop 2016: 64). Furthermore, the discoidals at the Self Creek and Ardell Bluff sites are exclusively manufactured from local materials (Bishop 2016: 53-54). Therefore, Bishop argues that people at these sites were not simply making discoidals for trade with nearby Mississippian people, they were also making them for their own use, and in the case of the Self Creek site, Bishop thinks that these discoidals were a significant part of local cultural identity (2016: 65).

Elsewhere in Pre-Colombian North America, games and their associated activities (such as gambling) may have played an equally important role in major cultural transformations. Weiner (2018) demonstrates this in a case study on Chaco Canyon. Analyzing a sample of 471 gaming artifacts from the Southwest as well as indigenous oral traditions, Weiner explores how gaming

and gambling could have played an important (although certainly not exclusive) role in integrating communities, facilitating trade, perpetuating religious ideologies, and allowing leaders to accumulate enough wealth to establish previously unheard-of levels of social inequality – all key components of the culture that emerged around Chaco Canyon, and indeed around Cahokia. It is important to stress here that the important role gaming and gambling may have played in Pre-Colombian indigenous societies is hardly unique to these societies (see Besnier et al. 2018) and should never be used, inadvertently or otherwise, to buttress harmful modern stereotypes of indigenous people such as the “Casino Indian.” The point here, to which Weiner (2018: 50) alludes, is that the gaming artifacts of all sorts found across North America, including chunky stones, should take their rightful place in the archaeological record as important markers of cultural identity and history that have much to tell us about the sites and peoples with which they are associated, just as one would imagine that a hypothetical future study of the material culture associated with American or Association Football, the Olympics, or any other major modern sporting practice would tell future researchers a great deal about specific modern cultures or global culture.

DeBoer (1993: 86) described an ideal study of chunky and the role it played in the social and political landscapes of the Eastern Woodlands as beginning with a “global survey of thousands of well-described, well-provenienced, and well-dated chunky stones.” Zych (2017) argued that in order to conduct such a study, “vigilant inquiry into often obscure archaeological technical reports” (82) would be required given the lack of well-dated and well-provenienced chunky stones readily available for research. Zych (2017: 82) also believes that attribute-based analysis of the morphological variation between chunky stones performed on such a sample would be the best way forward. While this ideal study remains out of reach, as DeBoer himself

argued in his own study of chunky stones, “the ever-present lament for more and better information should not paralyze or stall attempts at understanding, however premature” (1993: 86).

What I will attempt here is a preliminary version of this ideal study that may be useful for laying the groundwork of and gauging how to approach a larger project. Already contained within the published archaeological literature (going back to the earliest excavations in the 1800s), as well as the searchable online collections of museums and some universities are hundreds, if not thousands of discoidals from the Eastern Woodlands. By searching through this literature and these collections, it is possible to compile a sizable sample of discoidals with a relatively high, although varying, amount of associated information, including size, material, provenience, date, and images. Once this sample is compiled, a preliminary stylistic and distributional analysis drawing on an attribute-based approach can be performed with the goal of determining which discoidals are chunky stones, and among those, what styles exist, what these styles look like, where they appear, when they appear, and how they may have changed over time. A better understanding of the different styles of chunky stones throughout space and time will allow for a critical re-evaluation of Perino’s 1971 typology and should further explain the variability of these artifacts and help answer questions like “what is a chunky stone at this time and place?” and “what is a local/non-local representation of a chunky stone at this time and place?”, in turn perhaps eventually revealing new dimensions of the arguments about the spread and development of the chunky game raised by Pauketat, Zych, and others.

4. Definitions for Stylistic Analysis

A successful stylistic study requires a systematic methodology and a precise understanding of associated concepts. Vernon Knight's 2012 work *Iconographic Method in New World Prehistory*, although primarily concerned with the methodology and vocabulary of iconographic interpretation of visual images, devotes a significant amount of time to the concept of style in general and how to analyze it, providing several definitions that will be important to this study going forward. To begin with, four kinds of cultural models "guiding experience through symbolic representations, but in different domains" (Knight 2012: 25) are distinguished. These are "models governing the formal properties of images", "models governing the execution of images", "models governing the significance of referents", and "models governing the correct reading of referents". Here, we are primarily interested in the first type of model, defined as follows:

The first category consists of what we mean by 'style', strictly speaking. Models governing the formal properties of images are those that dictate, for a community of beholders, what is appropriate visual form for a given representational context. (Knight 2012: 25)

Translated into the domain of artifact analysis as opposed to the analysis of visual imagery alone, the formal properties of images become the formal, morphological properties of artifacts. In the context of discoidals and chunky stones, this means that this study should seek to approximately define distinct chunky stone "styles", as in the various sets of formal properties that dictated for given communities of beholders what the appropriate shapes of the stones were. It is important to note that there is a major assumption that underlies this sort of stylistic analysis: all of the artifacts being analyzed must belong to the same functional category, what Knight (2012: 34) calls a "genre", because stylistic models change as genres change (Knight 2012: 35).

It may be tempting to focus analysis solely on developing an understanding of discoidal styles. However, the great variation within the discoidal artifact class and the real possibility that some could be used in unrelated games, such as the many dice games described by Culin (1907/1973), as tools, or for some other purpose means that the term “discoidal” may encompass multiple subgenres. Therefore it is necessary to make an attempt to define the genre of chunky stone itself, and what is and is not a chunky stone if the best understanding is to be arrived at.

With this in mind, when speaking of the distinct styles that this study will seek to define, Knight (2012) provides another important and necessary elaboration on the relationship of styles to time and space:

Thus, when it becomes necessary to define and name distinct ‘styles’ as opposed to ‘style’ in the abstract, ‘a style’ will really always mean an arbitrarily defined style phase, an analytical moment tightly bounded in space for which it is reasonable to spell out the stylistic canons that governed the formal properties of images at that analytical moment. (Knight 2012: 24)

The stylistic canons mentioned are defined as “distinctive features that together determine the style of a given period” (Knight 2012: 24). Two more terms are also provided, for when the temporal or spatial frame of reference needs to be expanded: the style tradition, which persists over a long period of time, and the style horizon, which is adopted relatively simultaneously by a number of communities of beholders across a broad geographical space but lasts only a short time (Knight 2012: 24). Bringing all of these definitions and considerations together, this study ultimately aims to define style phases, traditions, and/or horizons within the genre of chunky stone, each of which has an associated set of stylistic canons that governs its appropriate formal properties. With this vocabulary established, it is possible to proceed to what Knight (2012: 32) recommends as the first two stages of any analysis of style: gathering a suitable sample and organizing it by genre.

5. Gathering the Sample and Organizing by Genre

In gathering the sample of discoidals used for this study, the goal was to record as many discoidals as possible within the available timeframe and with the available resources. As this study did not have the resources to visit collections across the country, data gathering had to be restricted to collections that were immediately available at UNC-Chapel Hill, collections that were searchable online, and the published archaeological literature. As a result, it should once again be emphasized that this study is preliminary.

Among the potential set of discoidals available from these sources, further criteria had to be met for inclusion in this study. At minimum, each artifact included had to have an available photo, drawing, or 3D model to allow analysis and classification of stylistic attributes and provenience information to at least the state level in order to allow for some degree of spatial bounding of styles in the distributional analysis. Fortunately, most of the artifacts included in this study exceeded these minimum requirements. To the degree that was possible, the following information was recorded in the sample for each artifact: full provenience to the site level, date of archaeological context, maximum diameter, maximum thickness, incised decoration (if present), material, and all available photographs, models, and/or drawings.

With the minimum criteria and the other data fields to be collected established, the process of gathering the sample began. This started with a number of books authored in the early days of American archaeology. Following this, several artifact collections available online were searched for artifacts that could be included with the keywords “discoidal”, “chunkey”, and “chunkee”. The final stage of data collection involved a search of the archaeological literature itself related to chunkey and discoidals in the Eastern Woodlands. The bibliographies of works that have discussed chunkey games were extensively searched, and a state-by-state google scholar search

was also conducted with the same keywords used to search museum and university collections. See Appendix B for the raw data collected and associated sources. The final dataset included 266 discoidals. Figure 5 displays a heatmap of the distribution of the sample, and Table 1 lists the number of discoidals associated with each state.

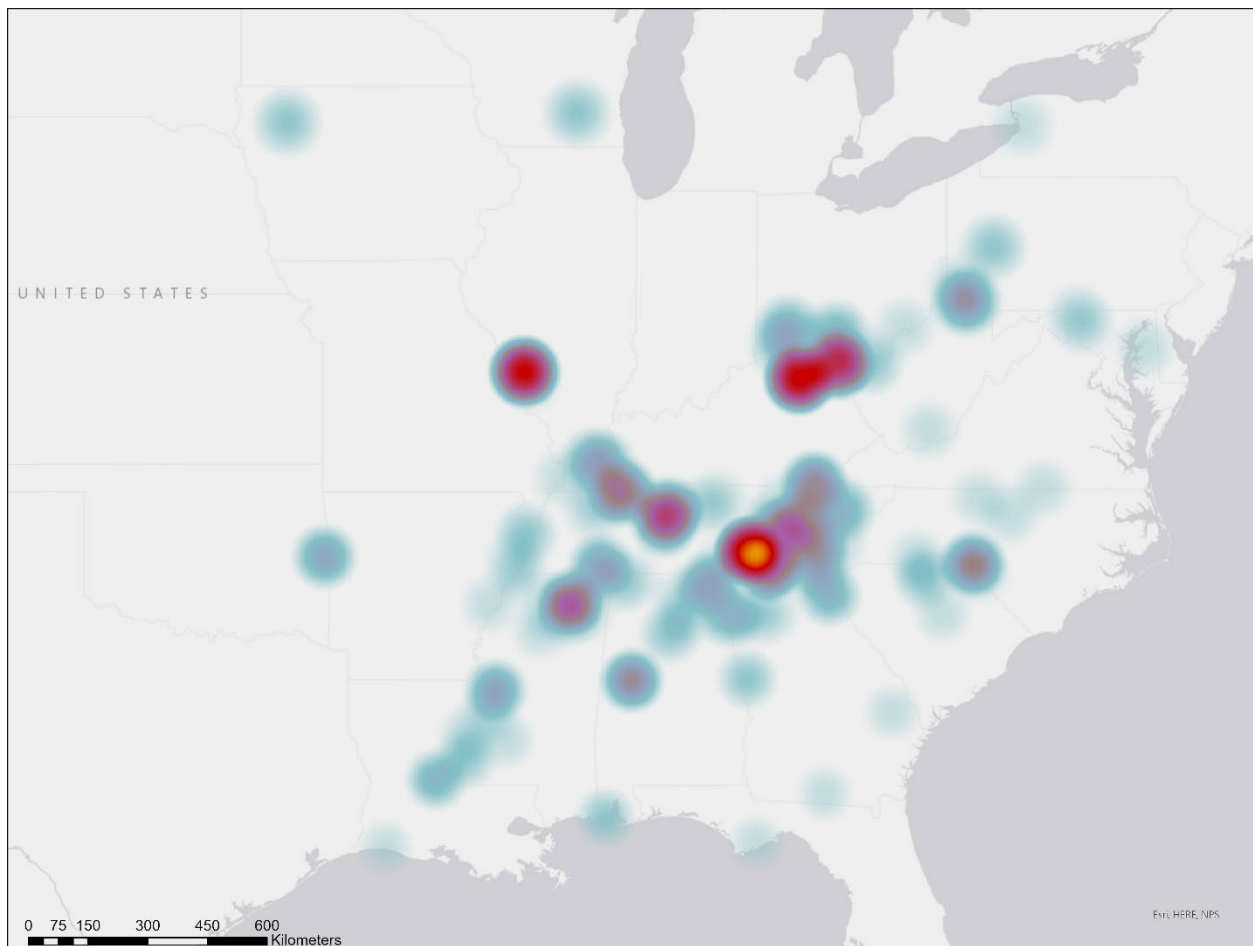


Figure 5: Heatmap of the distribution of the collected sample. Note that 12 artifacts from the sample are not represented on this map as their provenience only extended to the state level.

Table 1: States by Quantity of Discoidals in Sample

State	Quantity of Discoidals
Tennessee	84
Ohio	24
Mississippi	21
Illinois	21
Kentucky	21
North Carolina	17
Alabama	18
Georgia	13
Pennsylvania	8
Virginia	7
South Carolina	6
Louisiana	6
Oklahoma	4
Arkansas	4
Maryland	3
Iowa	2
Wisconsin	2
Florida	1
West Virginia	1
Missouri/Tennessee	1
New York	1
Missouri	1
Total	266

This sample is notably biased towards Tennessee and adjacent parts of bordering states. While this may reflect a real concentration of discoidals in this area, it is very likely that it also at least partially reflects a greater number of excavations and more identifications of discoidals. This limitation is important to keep in mind when interpreting the results.

Once the sample was gathered, the next step was to organize it by genre. Specifically, the goal was to identify which discoidals were likely stones used in a game in the chunky tradition, and which discoidals were likely not. The only way to make this distinction is to rely on one of the two types of ethnographic analogy discussed by Knight (2012): historical homology. Historical homology is defined by Knight (2012: 136) as a type of analogy where “the investigator establishes that the source ethnographic material belongs to the same cultural tradition as the subject to be interpreted”. If there is a convincing basis for a historical homology between the stones used in the historically documented chunky game tradition and particular discoidals, those discoidals can be identified as probable chunky stones. Knight (2012) argues that the degree to which a homology is logically convincing depends on how relevant the historical sources are to the subject of interpretation, which itself is assessed along four dimensions: proximity in time, breadth of the comparative base, goodness of fit, and generative quality.

In the case of chunky stones, the historical homology is relatively straightforward. To begin with, it is easy to establish that the cultural traditions historically documented as being involved with chunky games and the cultural traditions that produced discoidals are one and the same. There is no doubt that Cherokee, Chickasaw, Choctaw, Muscogee, and other groups that appear in the historical source material are the cultural descendants of the Mississippians and

related groups who produced earlier discoidals and are in fact exactly the same people who produced many of the later discoidals. The line of cultural transmission is extraordinarily clear.

Moving on to the first dimension of source relevance, proximity in time, we find that this is not a concern at all for some discoidals but could be a significant concern for others. There is no chronological gap or only a narrow chronological gap between the historical sources and the later-dating discoidals. However, with the earliest discoidals argued to be chunky stones, those from the American Bottom and dating to 600s CE (Pauketat 2009), the chronological distance between the production of the artifacts and the earliest Euro-American sources mentioning chunky games exceeds 1,000 years, certainly plenty of time for drastic changes to the nature of the game. On the other hand, iconographic and statuary depictions from Mississippian sites exist that appear to clearly represent individuals in the process of rolling stones similar to those described historically (for examples, see Kelly and Neitzel 1961: plate VIII, Brown 2004: Figure 2, Pauketat 2004: figure 6.2). While this is a strong argument in favor of the validity of identifying a discoidal as a chunky stone farther back in time, it is still worth noting that the distance between early discoidals (even those dating to around the time of Cahokia) and available historical sources is significant. The relevance of historical sources based on proximity in time alone is mixed.

The second dimension, breadth of comparative base, measures relevance by how broadly traits are shared across a cultural area. Historical accounts of the chunky game tradition are found across the Southeast and farther away among peoples such as the Mandan near the Great Plains. While these accounts show variation in the rules of the game and the exact form of the implements and playing fields, the commonalities (a large, hard-packed playing field, a rolling stone, a long throwing pole, the basic gameplay) are clear. According to Knight's (2012: 137)

criteria, this broad and uniform distribution of traits convincingly suggests the antiquity of the game tradition and the implements used in it and therefore enhances the relevance of the historical sources for identifying chunky stones farther back in the archaeological record, although one should not necessarily expect all chunky stones to look exactly like those described historically.

The third dimension, goodness of fit, measures relevance by assessing the level of similarity vs. dissimilarity in traits present between the between the source and the subject as well as the degree to which the underlying interrelationships between traits in the source and subject are similar. Considering the traits of discoidals themselves, many are very similar trait-wise to the chunky stones described in historical sources, which are variously described as being shaped like “bowls”, “trucks” (wheels), “cylinders”, and “rings”. Sources describe chunky stones diameters that range from 2 inches/5.08 centimeters to “two spans” in circumference, which translates to a diameter of about 5.7 inches/14.48 centimeters. Thicknesses are described as ranging from 1 inch/2.54 centimeters to “two fingers”. The majority of discoidals for which sizes were given fall within these parameters (Figure 6). The trait-based similarity clearly exists for individual artifacts. However, establishing that the underlying interrelationships between traits also remained intact farther into the past is more difficult.

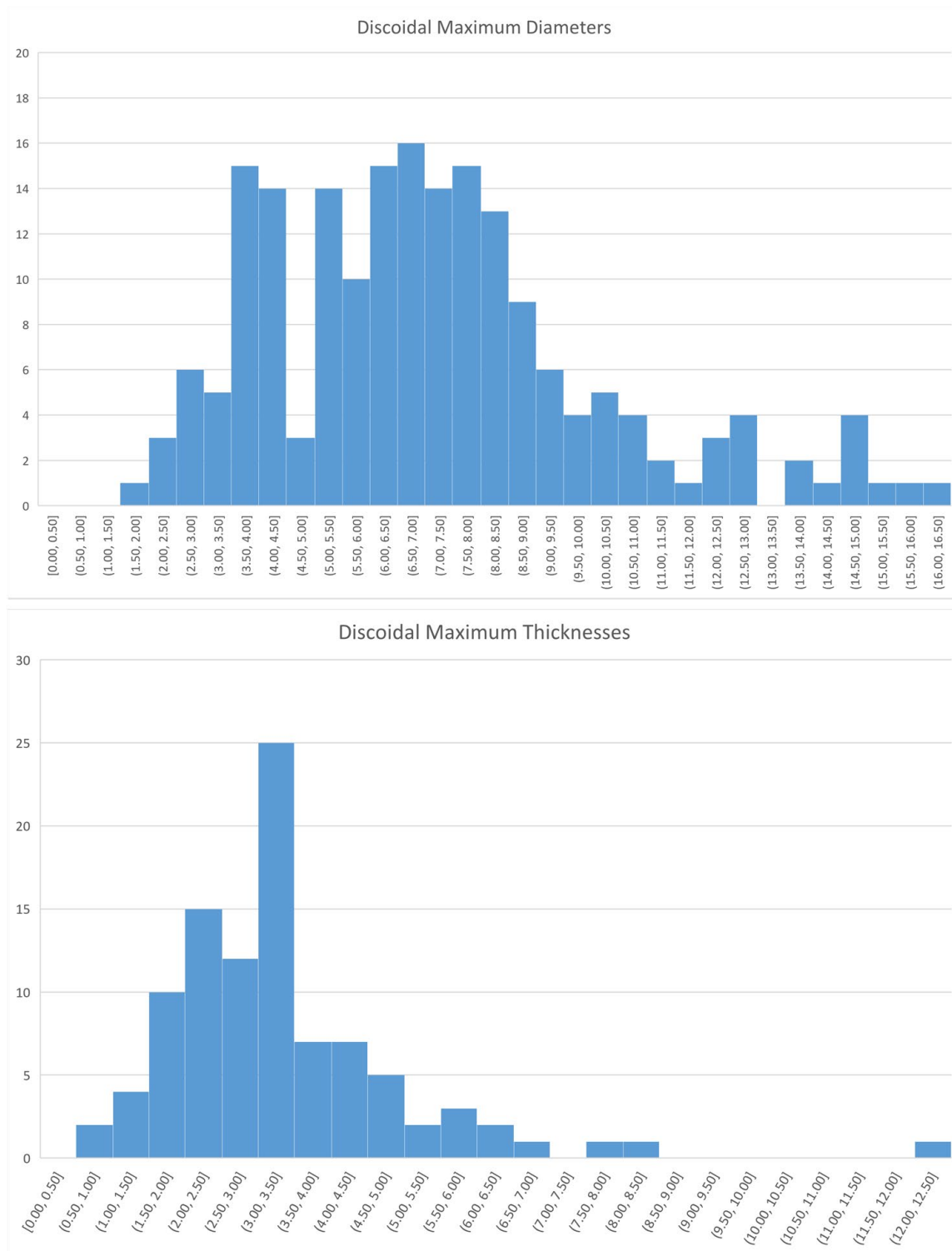


Figure 6: Histograms of discoidal diameters and thicknesses.

In the case of chunky stones, this could involve demonstrating that other traits associated with chunky tradition games, such as the throwing pole and the chunk-yard, were also present and associated with the artifacts identified as chunky stones. Unfortunately, the wooden poles do not preserve archaeologically, and little work has been done on playing fields archaeologically speaking. However, the known examples of Mississippian art probably depicting chunky players usually show a pole-like implement in one hand of the player, providing good evidence that this specific interrelationship extended into the past. While this is not unshakable proof, it is enough to show that the interrelationship between playing implements was probably similar between the historical sources and the earlier periods to which the homology seeks to extend. When this evidence is considered along with the high degree of similarity in artifact traits, the homology fits well with many discoidals.

The fourth and final dimension, generative quality in “pointing to unforeseen cultural connections in a manner that would be highly unlikely if the comparisons were fundamentally flawed” (Knight 2012: 138) can only be assessed in the long term. The homologies established here can only be judged on this dimension by future researchers. However, in general it is a good sign that the identification of some discoidals as chunky stones, despite being a very early historical homology established in the 1800s, has stood the test of time and been the foundation of the convincing interpretations about the relatively distant past from DeBoer (1993), Pauketat (2004, 2009), Zych (2017) and others.

On the basis of these four dimensions, the homology between the historically documented chunky stones and certain discoidals with similar traits was deemed logically sufficient to identify these discoidals as chunky stones. The sample was divided into several genres by these identifications. The first genre, probable chunky stones ($n = 176$), exhibits good

fit with the homology. These artifacts are generally symmetrical, about 5 centimeters or larger in diameter, and are more likely to have clearly defined features such as concavities and perforations on their faces. The second genre, small/rough discoidals ($n = 34$), are often less symmetrical and less than 5 centimeters in diameter, and rarely exhibit features on their faces. The third genre, uncertain cases ($n = 54$) are indeterminate and might belong to either of the previous genres or another entirely.

6. Stylistic and Distributional Analysis

According to Knight (2012), the final stage of a stylistic analysis is the chronological organization of the sample. This is the moment at which “styles” can be identified - the spatially bounded style phases within which it is possible to describe distinct stylistic canons. This is a complicated process, especially when relying on a sample sourced from museum collections and literature that often do not provide dates for discoidals or provide extremely broad dates. As a result of this limitation, the only way to begin to identify styles is by searching for evidence of internal stylistic change within the sample and cross-referencing undated examples with dated ones. Later, additional lines of evidence such as the geographic distributions of possible groupings and quantitative analysis of attributes such as diameter and thickness can be considered in order to help formally define a style.

The search for stylistic change within the sample began with a preliminary visual analysis. For each artifact, every available picture was examined in concert with the other information provided, and preliminary observations were made of possible style groupings. An equally important part of this initial phase was the development of a standard anatomy (Figure 7) in order to provide the necessary vocabulary for describing specific attributes of chunky stones and other discoidals.

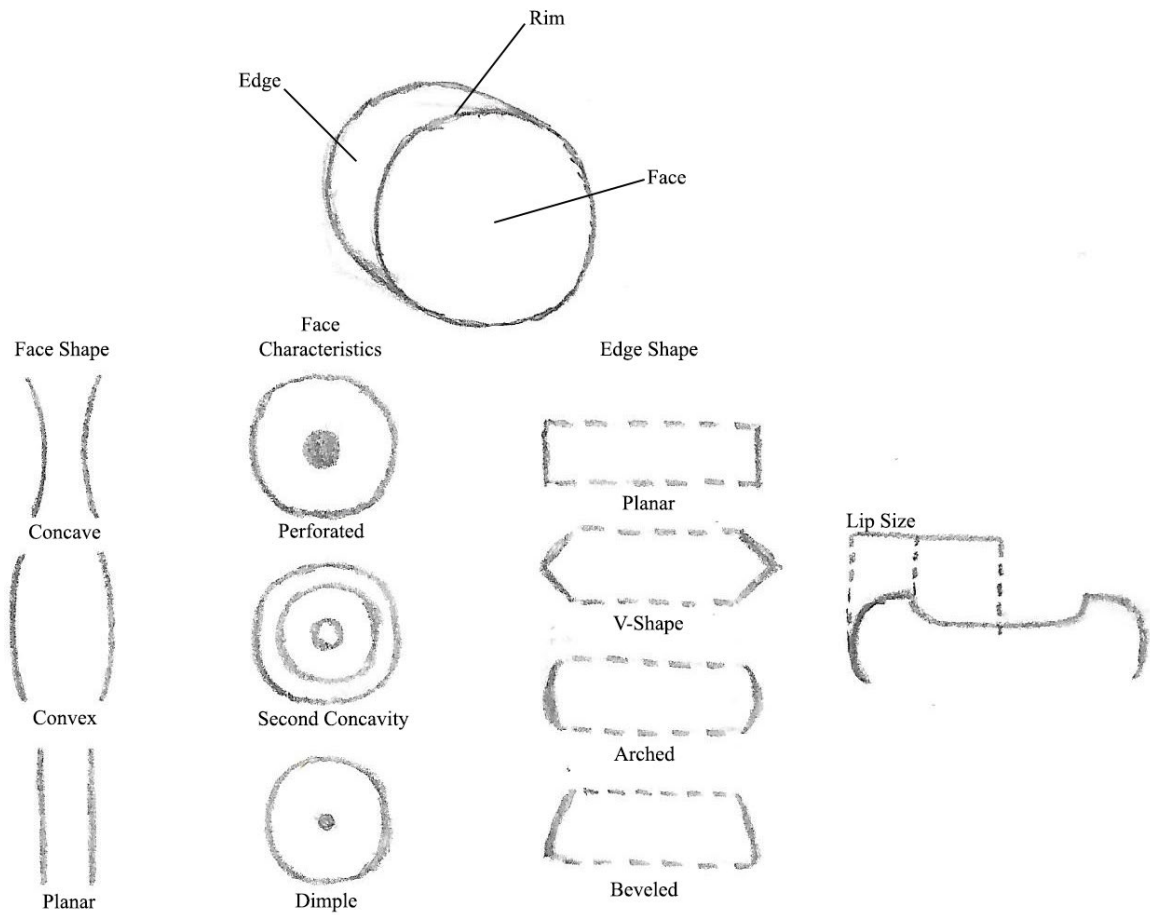


Figure 7: Standard Anatomy

Each feature in the standard anatomy was defined as follows:

Face: The two parallel surfaces where the concavity, convexity, or planarity are expressed.

Edge: The lateral or “rolling” surface.

Rim: The transition between the rolling surface and the concavity, convexity, or planarity of the face.

Concave Face: Any face that displays some degree of concavity.

Convex Face: Any face that displays some degree of convexity.

Planar Face: Any face that is entirely planar.

Perforated: A face characteristic in which there is a complete hole through the center of the discoidal.

Second Concavity: A face characteristic in which there is a second, smaller concavity within the primary concavity of a face.

Dimple: A face characteristic in which there is a very small, shallow concavity on a face, usually but not necessarily in the center.

Planar Edge: Any edge that is entirely planar.

V-Shaped Edge: Any edge that comes to a relatively sharp point in the center, creating a V-shape.

Arched Edge: Any edge approximately shaped like the bottom of a U. The level of curvature may vary.

Beveled Edge: An oblique edge, such that one face of the discoidal is smaller than the other.

Lip: The edge and rim. Terminates at the beginning of the face.

Lip Size: The approximate percentage of the distance from the “edge” of the edge to the center of the stone that is taken up by the lip. Expressed as a decimal from 0.0 to 1.0. Best measured from directly above and generally only a useful metric for concave-faced artifacts.

During the process of developing the standard anatomy, an attempt was made to create classifications for the morphology of rims as well. It was found that due to the limitations of the

many of the pictures available for specimens in the sample there was too much ambiguity in the resulting classifications, and that the majority of the variation could still be captured by the features listed above.

With the standard anatomy developed, each discoidal in the sample was classified according to each of these attributes. In cases where available imagery did not permit the classification of a particular attribute, the attribute was listed as unmeasurable. Following these classifications, the sample was sorted to find the most common combinations of traits. At this stage, each discoidal was also mapped with all associated information in ArcGIS with the highest degree of accuracy that the available provenience information permitted. The final identification of styles for this study was accomplished by cross-referencing common combinations of attributes with other lines of evidence, including observations from the visual analysis of the sample, organization of available dates, observation of geographic patterns in ArcGIS, and analysis of differences in other distinctive traits, such as diameter, thickness, and the presence/absence of decorative incisions. Each chunky stone in the sample was classified as either a probable example of a style, an uncertain example of a style, or as unclassifiable at this level of analysis.

Jersey Bluff and Salt River Types (n = 1 probable, n = 2 uncertain)

Before proceeding to the rest of the results, it is important to address the Jersey Bluff and Salt River types (not to be confused with the *styles* discussed in the rest of the results. Although Perino's types mostly fit the definition of styles, he did not call them that). Perino associated both of these types with specific areas near Cahokia but did not cite a great deal of literature on where to find more examples of either. The only archaeological literature identified by this study in which a significant number of discoidals identified as these types could be found were site reports from the FAI-270 project, which excavated a number of Late Woodland sites around Cahokia (e.g., Kelly et al. 1987 and Fortier et al. 1991). A sample of discoidals was gathered from the FAI-270 site reports for this study, but it was found that most of the specimens were extremely rough and highly variable in morphology to the point that it was difficult to identify any clear styles. Ultimately, these specimens were not included in the final stylistic analysis.

Among the examples that *were* analyzed for this study, discoidals fitting the Jersey Bluff and Salt River type descriptions were extremely rare, with only a single clear example of the Jersey Bluff type, one uncertain example, and one uncertain example of the Salt River type. If these types do indeed represent the earliest styles of chunky stones, they are almost entirely restricted to areas in Illinois and Missouri, as Perino (1971) described. A separate and important task would be to find more examples and reanalyze these very early, rough discoidals, but for the stylistic analysis conducted here the somewhat later discoidals that the historical homology with chunky stones can be best extended to were prioritized.

Cahokia Style (n = 42 probable, n = 8 uncertain)

Chronologically, the Cahokia style (Figure 8) is the earliest style identified within the sample, present as early as the 900s at Mound 72 in Cahokia (Table 2). It is difficult to mark an end date for the style given the dearth of dating in general and the possibility that the stones continued to be passed down to new generations, as seen with Cahokia-style stones found in later contexts by George (2001), but the 1300 or 1400s could be suggested.

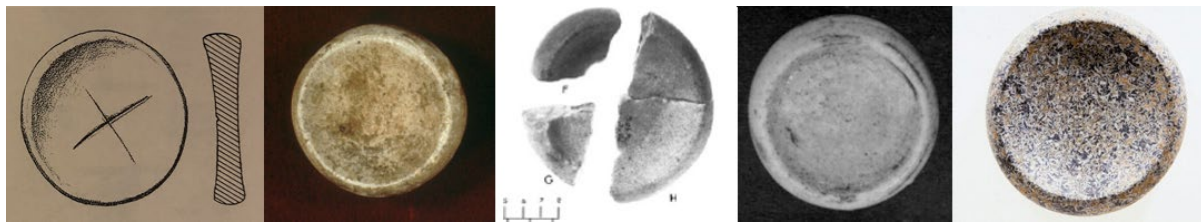


Figure 8: Cahokia style chunky stones. From left to right, provenienced to Lake George, MS (Specimen #194), Spiro, OK (Specimen #59), Town Creek, NC (Specimen #183), Cahokia, IL (Specimen #264), and Moundville, AL (Specimen #114).

Table 2: Dates Associated with Cahokia Style Chunky Stones

Date	Provenience/Date Source	Associated Artifacts
930-1075 CE	Cahokia, IL (Fowler 1991)	14
1050-1300 CE	Obion, TN (Garland et al. 1992)	1
900-1450 CE	Spiro, OK (Sievert et al. 2011)	3
Early Kincaid	Kincaid, IL (Cole et al. 1951)	1
Middle Kincaid	Kincaid, IL (Cole et al. 1951)	1
Late Kincaid	Kincaid, IL (Cole et al. 1951)	1

This style is probably the most recognizable chunky stone style in the archaeological record, and the description of the formal properties of the style given here will not differ greatly from

that given for Perino's (1971) Cahokia type. The faces are invariably concave and almost always featureless, although two specimens did exhibit a central perforation. Each face terminates in a rim that is rounded or slightly sharp. The edges that could be observed were usually somewhat arched (29/42), with a few being completely flat (3/42), although Fowler et al. (1999) note that the stones with flatter edges are also often those that show the heaviest use wear, so these may have originally been arched. The lip size ranges from 0.0625 to 0.25, with the majority of specimens in the range of 0.10 to 0.20 (Figure 9). Specimens cluster around 7 to 8 centimeters in diameter and 2.5 to 3.5 centimeters in thickness (Figure 10).

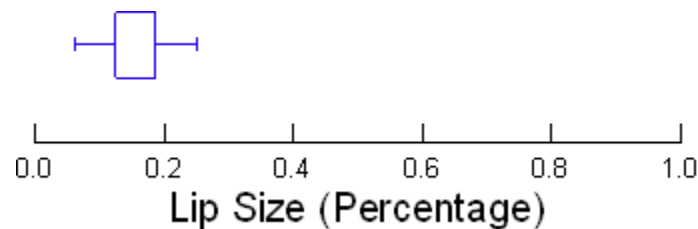


Figure 9: Boxplot of lip sizes for the Cahokia style.

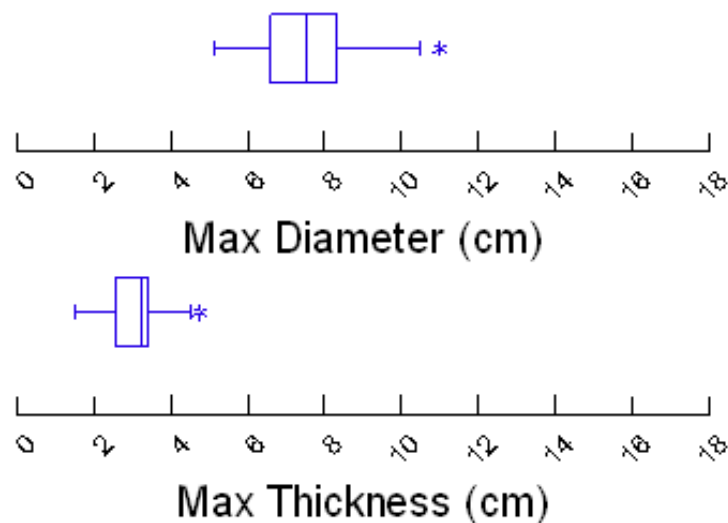


Figure 10: Boxplots of diameter and thickness for the Cahokia style.

Generally, this style lacks any incised decoration, although there are exceptions, with one example incised with a cross and one example incised with diamond shapes (for more discussion

of incised decorations on Cahokia-style stones, see Yancey and Koldehoff 2011). Materials listed for Cahokia style chunky stones included marble, granite, slate, quartz, quartzite, flint, jasper, sandstone, and diorite. Geographically, the Cahokia style is distributed throughout much of the Eastern Woodlands and is by far the most widespread style discussed here, with examples found at major sites as far North as Wisconsin, as far West as Oklahoma, as far South as Louisiana, and as far East as North Carolina (Figure 11). This style's uniquely wide distribution may classify it as a style horizon according to Knight's (2012) definition, although it also seems to have persisted intact for a long period of time, whereas Knight defines style horizons as usually being short-lived.

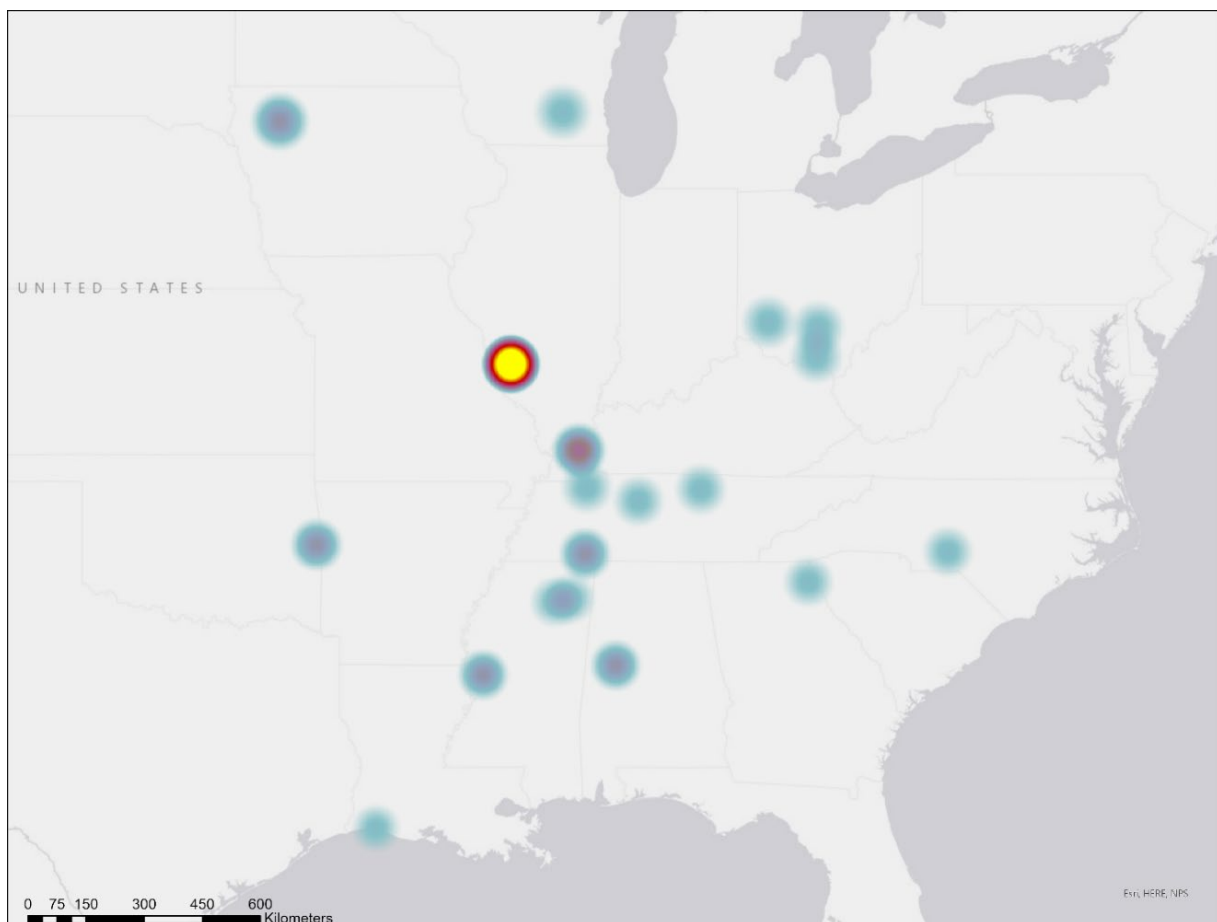


Figure 11: Heatmap of the distribution of Cahokia style chunky stones.

Bradley Style (n = 24 probable, n = 9 uncertain)

The Bradley style (Figure 12), named after Perino's (1971) Bradley type, is a distinctly different style of chunky stone that seems to postdate the Cahokia style and continue into the early contact period in some regions (Table 3).



Figure 12: Bradley style chunky stones. From left to right provenienced to Greene County, TN (Specimen #104), the Carter Robinson Site, VA (Specimen #227), Moundville, AL (Specimen #115), the Beck Site, AR (Specimen #124), and the King Site, GA (Specimen #201).

While a few dates associated with specimens from the Peabody Museum could potentially place those specimens contemporaneously with Cahokia style examples, DeBoer's (1993) seriation of Perino's types definitively places it after the Cahokia type in the American Bottom, and the rest of the dated examples from the sample analyzed here place it later as well. The defining characteristic of this style is its invariably convex and featureless faces. The rims are always at least somewhat rounded, and the edges that could be observed were flat (9/25), or slightly arched (2/25). As this style has convex faces, it lacks a measurable lip. Specimens cluster around 6-9 centimeters in diameter and 3-4 centimeters in thickness (Figure 13).

Table 3: Dates Associated with Bradley Style Chunkey Stones

Date	Provenience/Date Source	Associated Artifacts
1000-1600 CE	Green County, TN (Peabody Museum)	1
1000-1600 CE	Sevier County, TN (Peabody Museum)	1
1000-1450 CE	Williamson County, TN (Peabody Museum)	2
1200-1600 CE	Mississippi County, AR (Brown 2004)	1
1300 CE	Lowndes County, GA (Brown 2004)	1
1300-1400 CE	Carter Robinson, VA (Bryant 2019)	1
1300-1500 CE	Beck Site, AR (Brown 2004)	1
1300-1600 CE	Brakebill Mound, TN (Peabody Museum)	2
1400-1700 CE	Coweeta Creek, NC (UNC-RLA Collection)	1
Mid 1500s	King Site, GA (Halley 2008)	2
1700s	Toqua Site, TN (Polhemus et al. 1987)	1
Dallas Component	Hiwassee Island, TN (Louis and Kneberg 1946)	3

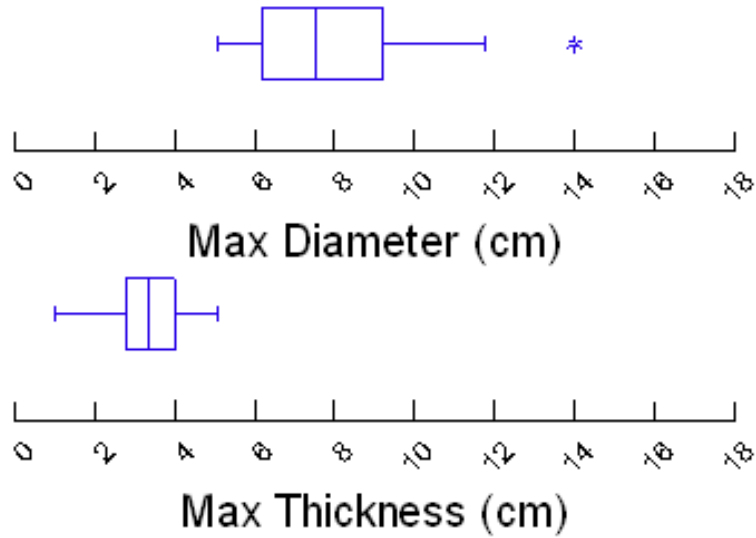


Figure 13: Boxplots of diameter and thickness for the Bradley style.

No specimens of this style were incised with any decorative elements. Materials listed for Bradley style chunky stones included conglomerate, quartzite, sandstone, and kaolin. Geographically, the Bradley style is less far-flung than the Cahokia style but still widespread enough throughout the Southeast to also be potentially classified as a style horizon (Figure 14).

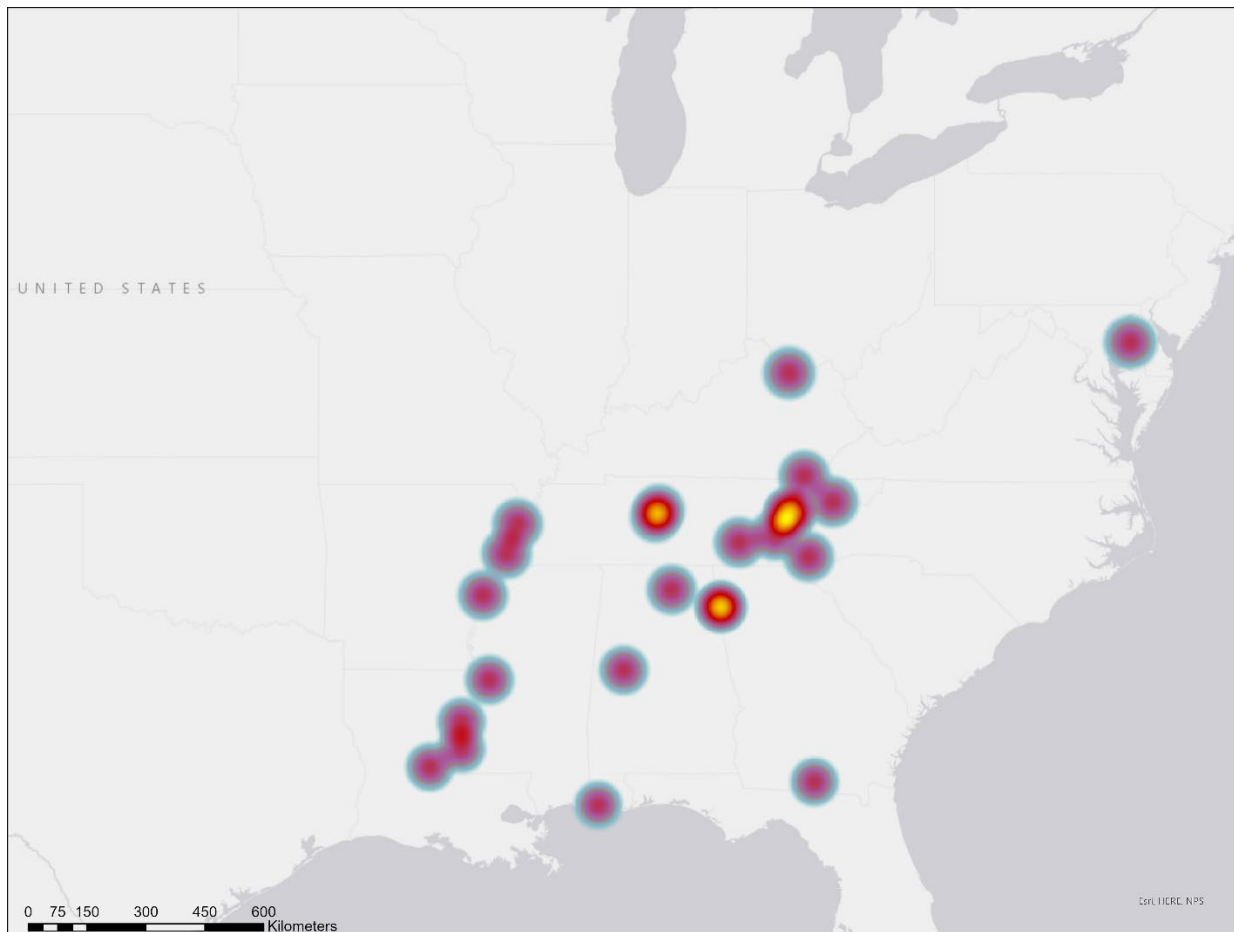


Figure 14: Heatmap of the distribution of Bradley style chunky stones.

Feurt Style (n = 28 probable, n = 8 uncertain)

The Feurt style (Figure 15), named for a site in Ohio where a number of examples were excavated in the early 1900s, can be approximately dated from the 1200s to the 1500s based on the few dated specimens above (Table 4).

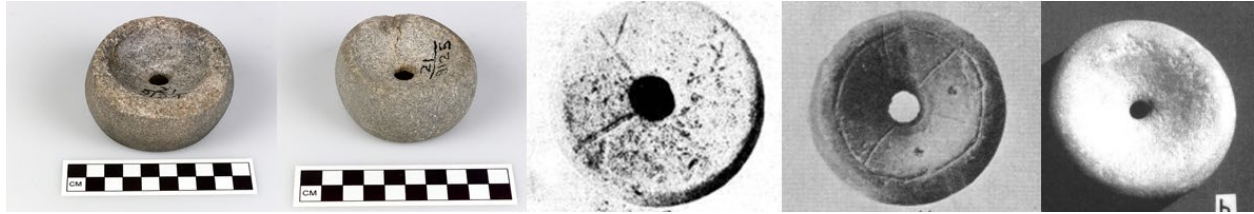


Figure 15: Feurt style chunky stones. From left to right, provenienced to Fort Ancient, OH (x2) (Specimen #41 and 42), Feurt Mounds, OH (Specimen #132), Fox Farm, KY (Specimen #152), and the Murphey's Old House site, PA (Specimen #168)

Table 4: Dates Associated with Feurt Style Chunky Stones

Date	Provenience/Date Source	Associated Artifacts
1000-1450 CE	Steward County, TN (Peabody Museum)	1
1200-1550 CE	Fox Farm Site, KY (Turnbow 1992)	9
Middle or Late Monongahela	Hatfield Site, PA (George 2001)	1
Middle or Late Monongahela	Hartley Site, PA (George 2001)	1
Middle or Late Monongahela	Israel Barclay Site, PA (George 2001)	1
Middle or Late Monongahela	Murphy's Old House Site, PA (George 2001)	1
Middle or Late Monongahela	Policz Site, PA (George 2001)	2

This style is somewhat more loosely defined, and with a large enough sample size it would likely be possible to describe a number of local sub-styles within the same chronological period. Despite this, these local sub-styles would still exhibit similarities in form that are impossible to

ignore and justify grouping them together on some level. A significant characteristic of this style is its invariably perforated, almost always concave (26/28) faces. Two examples have faces that are either extremely shallow concavities or are planar. The rims are almost always rounded or slightly sharp, although one example had a flat rim. The edges that could be observed were either flat (8) or arched (6). Lip sizes ranged from 0.10 to an extreme of 0.47 for one rough specimen, but the majority of specimens were in the range of 0.125 to 0.25 (figure 16). Specimens cluster around 7-9 centimeters in diameter and 2-4.5 centimeters in thickness (figure 17).

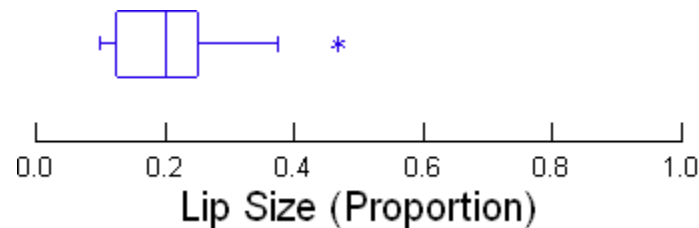


Figure 16: Boxplot of lip sizes for the Feurt style.

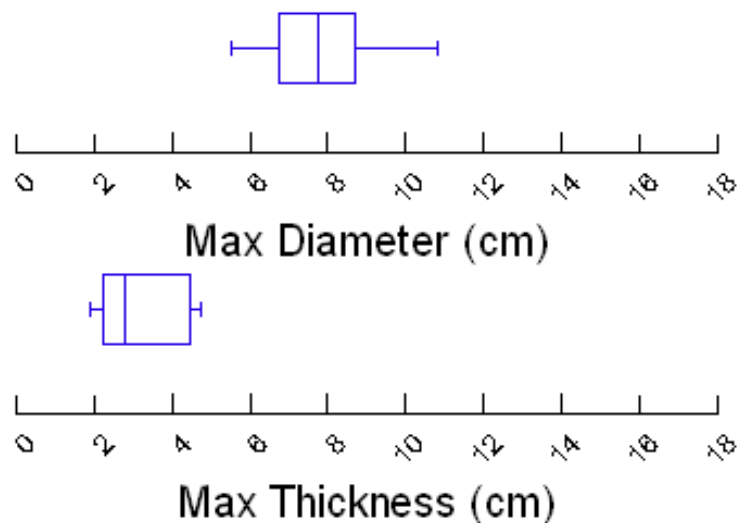


Figure 17: Boxplots of diameter and thickness for the Feurt style.

Notably, far more examples of this style were incised with decorative elements than any other (12/28), with elements including sets of radiating lines resembling bird tracks, circular lines, crosses, and various other designs. Materials listed for Feurt style chunky stones included

quartzite, granite, and sandstone. Geographically, this style is much more spatially bounded than either of the previous examples, being overwhelmingly associated Kentucky, Ohio, and Pennsylvania with just a few farther flung outliers (Figure 18).

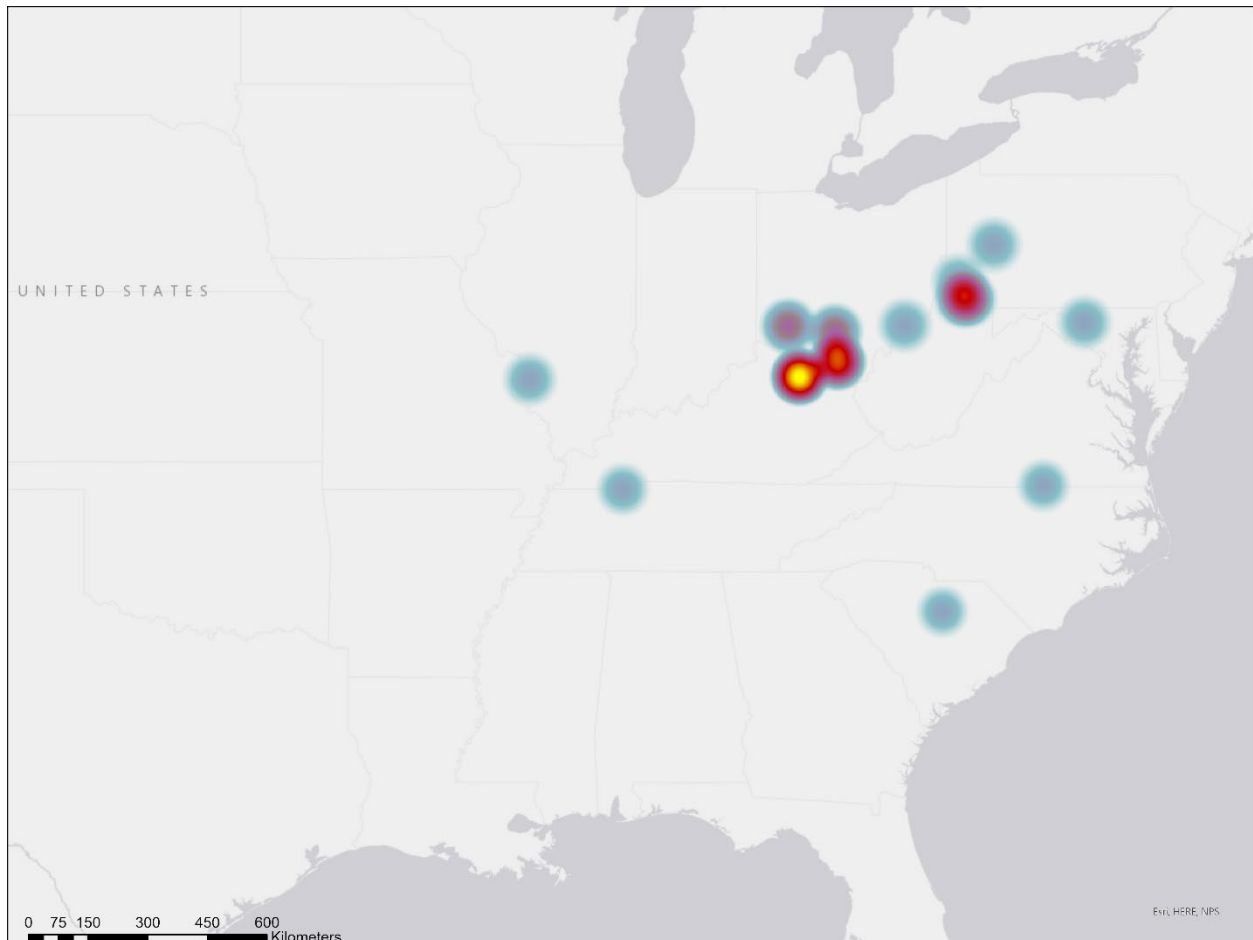


Figure 18: Heatmap of the distribution of Feurt style chunky stones.

Davidson Style (n = 18 probable, n = 6 uncertain)

The Davidson style (Figure 19), named for Davidson County, Tennessee where a particularly beautifully carved specimen was found, is difficult to soundly date at this time (Table 5). From the dates available, as well as one date of 1300-1400 in an uncertain specimen and three uncertain specimens dating to the Dallas Phase in eastern Tennessee (~1300-1600), it is possible to guess that this is a somewhat later style appearing near the tail end of the Cahokia style, but this is a very rough estimate only.

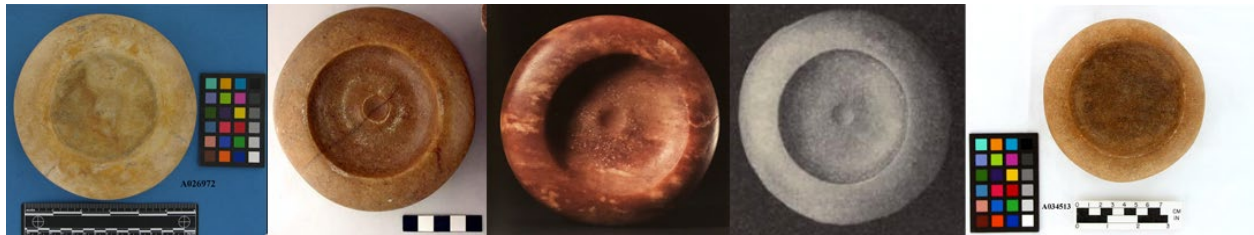


Figure 19: Davidson style chunky stones. From left to right, provenienced to an unspecified location, TN (Specimen #75), Davidson County, TN (Specimen #82), Wolf Island, MO (Specimen #123), an unspecified location, TN (Specimen #20), and Carroll County, TN (Specimen #74).

Table 5: Dates Associated with Davidson Style Chunky Stones

Date	Provenience/Date Sources	Associated Artifacts
1000-1600 CE	Wolf Island, MO (Brown 2004)	1
1000-1600 CE	Davidson County, TN (Peabody Museum)	1
1000-1600 CE	Greene County, TN (Peabody Museum)	2
1350-1450 CE	Haywood County, NC (UNC-RLA Collection)	1

Despite some cursory similarities to the Cahokia style, the Davidson style has several distinct formal properties that clearly set it apart. This style has invariably concave faces, but half (9/18)

exhibit a unique feature: a smaller, second concavity within in the center of the stone. The rims are rounded but terminate at a relatively sharp point at the beginning of the concavity. The edges are always arched but may exhibit a flatter band near the center where the rolling surface would be. Relatively high lip size is another distinguishing feature of this style, ranging from 0.20 to 0.44, with the majority of specimens in the range of 0.30-0.40 (Figure 20). Davidson style chunky stones are also noticeably larger than any other style, clustering around 13-15 centimeters in diameter, around twice the size of the average Cahokia style chunky stone, and around 5-6 centimeters in thickness (Figure 21).

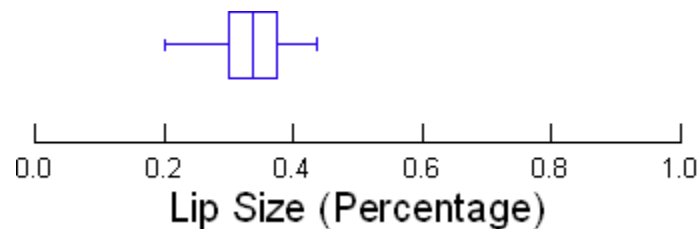


Figure 20: Boxplot of lip sizes for the Davidson style.

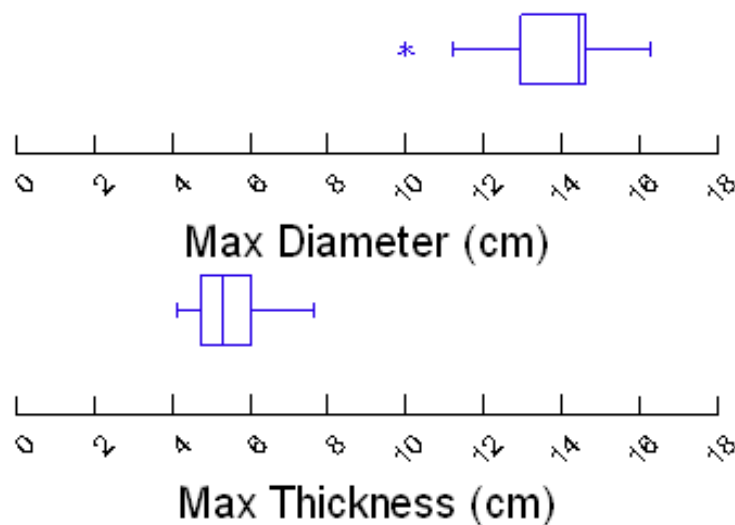


Figure 21: Boxplots of diameter and thickness for the Davidson style.

No specimens of this style were incised with any decorative elements. Materials listed for Davidson style chunky stones included quartz and quartzite. Geographically, this style can be

almost entirely spatially bounded to Tennessee and nearby parts of Georgia, Missouri, and North Carolina (Figure 22). It is probable that this style represents the “much larger, unnamed Mississippian variety found at Etowah and elsewhere in the south” that Perino cautioned against confusing with his Cahokia type (Perino 1971: 115-116).

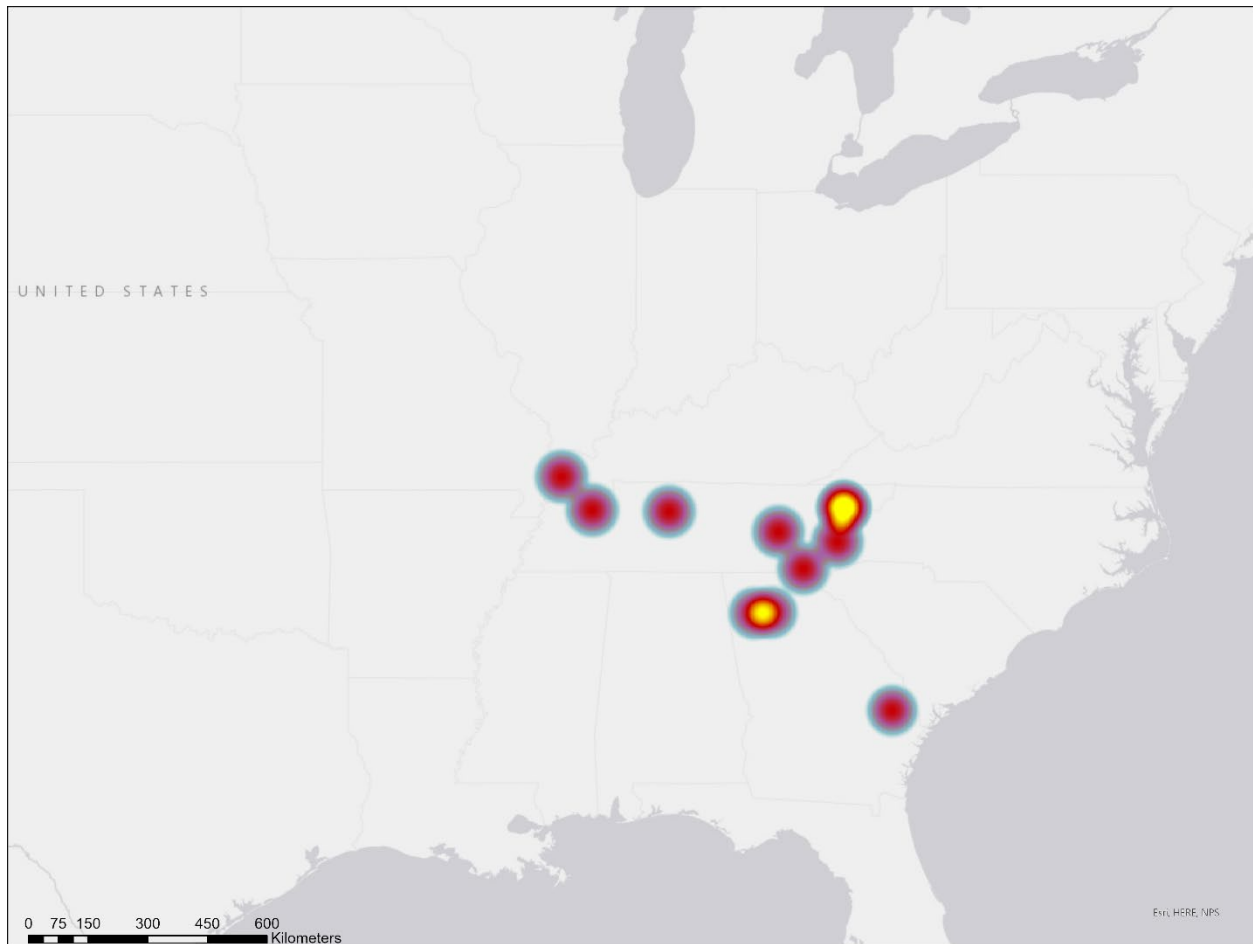


Figure 22: Heatmap of the distribution of Davidson style chunky stones. Seven stones lacking provenience information beyond the state level are not mapped here.

Tuckasegee Style (n = 7 probable, n = 1 uncertain)

The Tuckasegee style (Figure 23), named for the Cherokee town of Tuckasegee in North Carolina where three examples were found, is one of two styles that were provisionally identified in the sample but would benefit greatly from the identification and analysis of more similar artifacts. Dates strongly suggest that this is a later style, possibly appearing in the 1400s and continuing into the contact period (Table 6).



Figure 23: Tuckasegee style chunky stones. From left to right, provenienced to the Leak Site, NC (Specimen #185), Tuckasegee, NC (x2) (Specimen #191 and 192), the Fredericks Site, NC (Specimen #186), and the Madison Site, NC (Specimen #184).

Table 6: Dates Associated with Tuckasegee Style Chunky Stones

Date	Provenience/Date Source	Associated Artifacts
1150-1400 CE	Leak Site, NC (UNC-RLA Collection)	1
1400-1700 CE	Tuckasegee, NC (UNC-RLA Collection)	3
1400-1700 CE	Coweeta Creek Site, NC (UNC-RLA Collection)	1
1670-1690 CE	Madison Site, NC (UNC-RLA Collection)	1
1700 CE	Fredericks Site, NC (UNC-RLA Collection)	1

This style's distinguishing feature is a beveled edge, such that one of the two faces is smaller than the other. The faces are some combination of convex, slightly convex, and planar, often

with one face expressing more convexity than the other. The rims are rounded to slightly sharp, and there is no measurable lip. Specimens cluster around 7-8 centimeters in diameter and 3.5-4.0 centimeters in thickness (Figure 24).

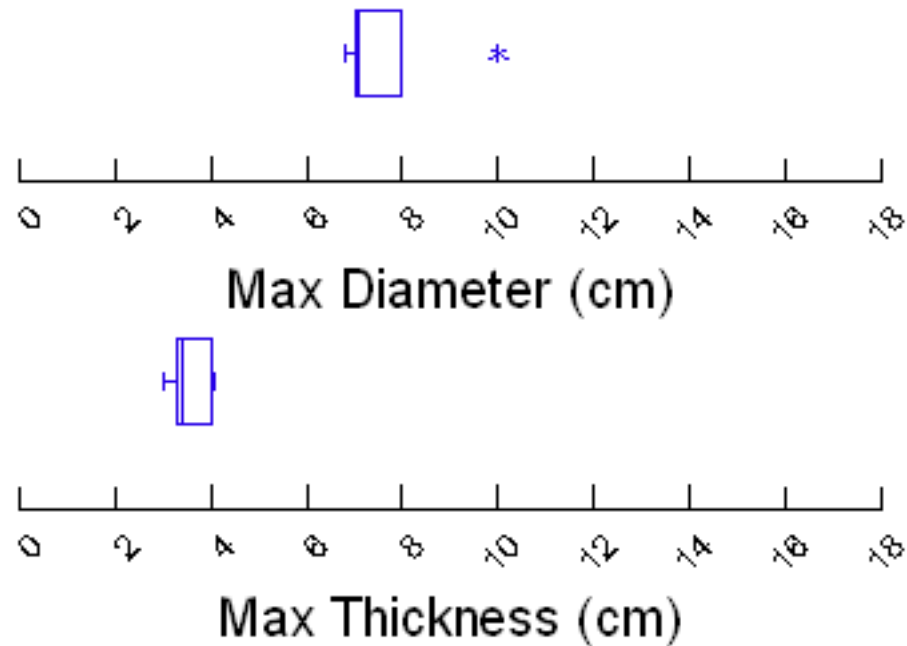


Figure 24: Boxplots of diameter and thickness for the Tuckasegee Style.

One far flung specimen from Mississippi was incised with a circle and possible star design on its planar face, but this specimen may represent a different local style in Mississippi that happens to be similar to the specimens from North Carolina, which can be more confidently grouped together (Figure 25). While the specimens of this style seem highly localized to North Carolina, this may simply be a result of the available sources, and so it should not be assumed that this is a strictly North Carolinian style as of yet.

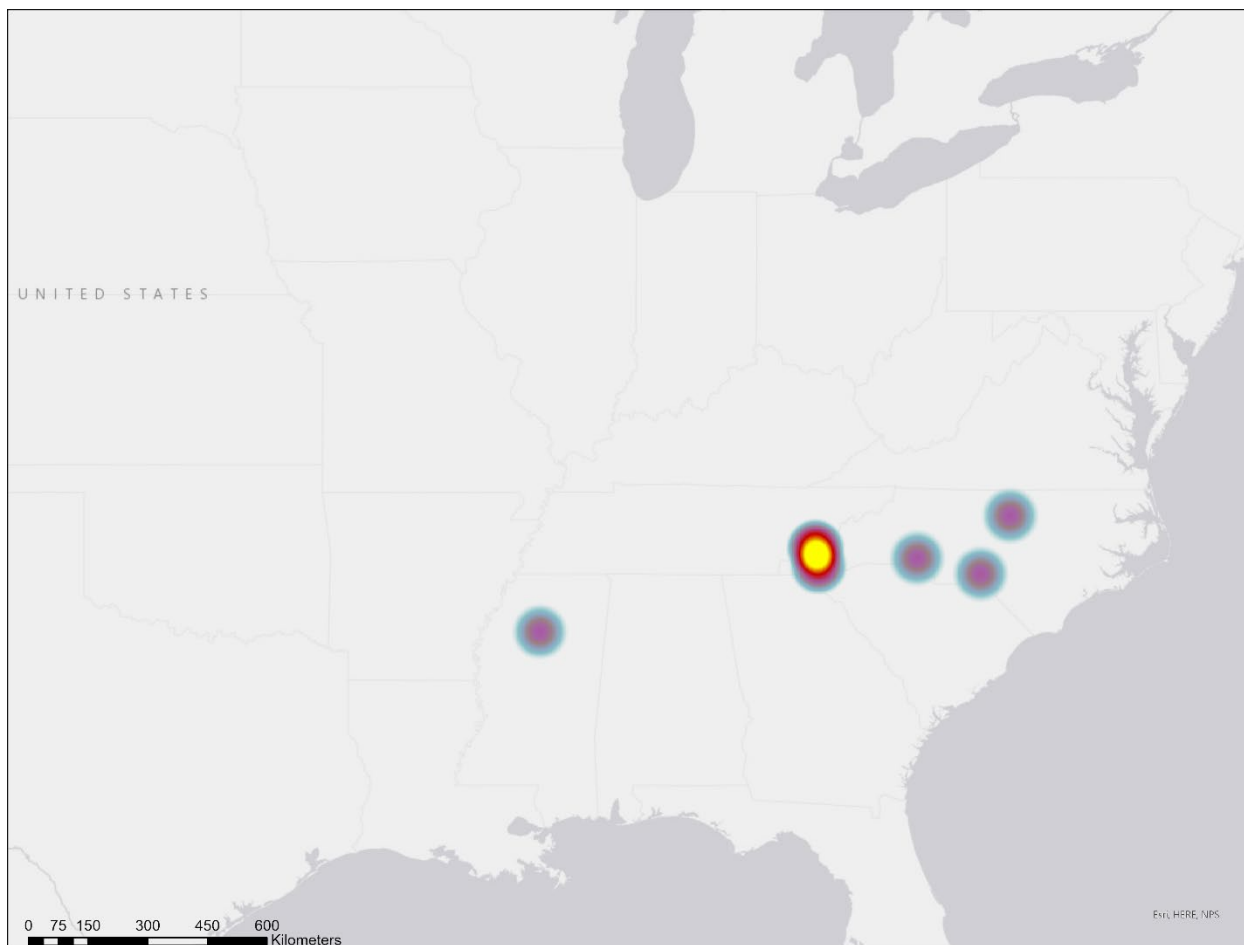


Figure 25: Heatmap of the distribution of Tuckasegee style chunky stones.

Barrel Style (n = 5 probable)

The Barrel style (Figure 26), named for its distinctive shape, is the second of two provisionally identified styles in this sample. No reliable dates (Table 7) are associated with any of the five specimens gathered, so it is impossible to place it chronologically.



Figure 26: Barrel style chunky stones(?). From left to right, provenienced to Marion County, TN (Specimen #80), Nickajack Cave, TN (Specimen #25), and an unspecified location, KY (Specimen #23).

Table 7: Dates Associated with Barrel Style Chunkey Stones

Date	Provenience/Date Source	Associated Artifacts
900 BCE – 900 CE	Marion County, TN (Peabody Museum)	2
Hamilton Component	Hiwassee Island, TN (Harrington 1920)	1

This style has concave (3/5) or planar (1/5) faces, and two specimens exhibited a feature similar to the second concavity feature found in the Davidson style. The edges are some degree of arched, and the rims are rounded. Three of five specimens possessed measurable lips, measuring as approximately 0.10, 0.125, and 0.20. The distinguishing feature of the barrel style is its unparalleled thickness in proportion to its diameter, with the three measurable specimens having almost identical measurements for both dimensions (Figure 27).

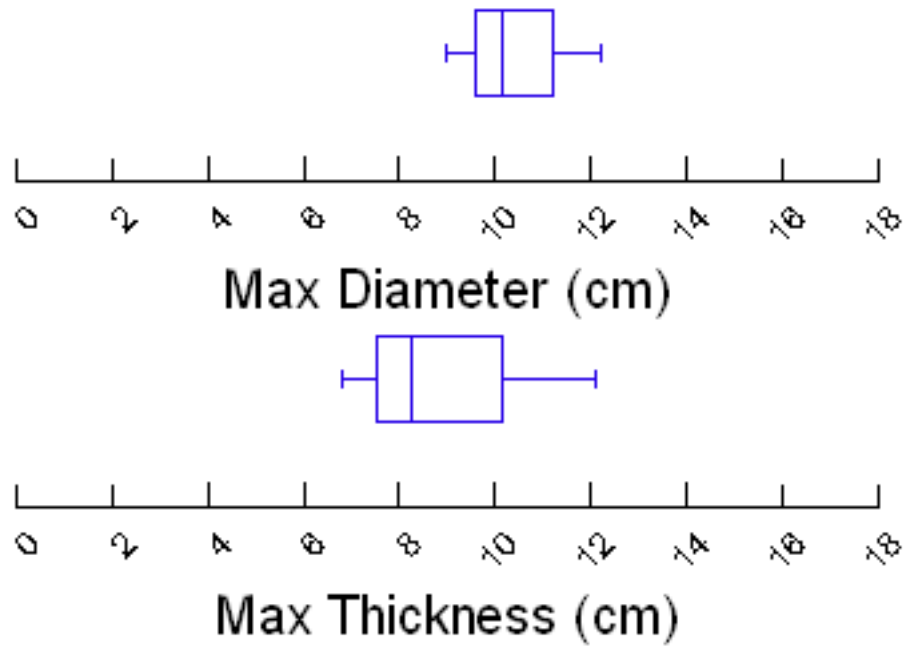


Figure 27: Boxplots of diameter and thickness for the barrel style.

Four of the five examples of this style were found in the same small part of Tennessee, with the fifth provenienced to an unknown location in nearby Kentucky, suggesting that this might be a distinctive but highly localized style (Figure 28).

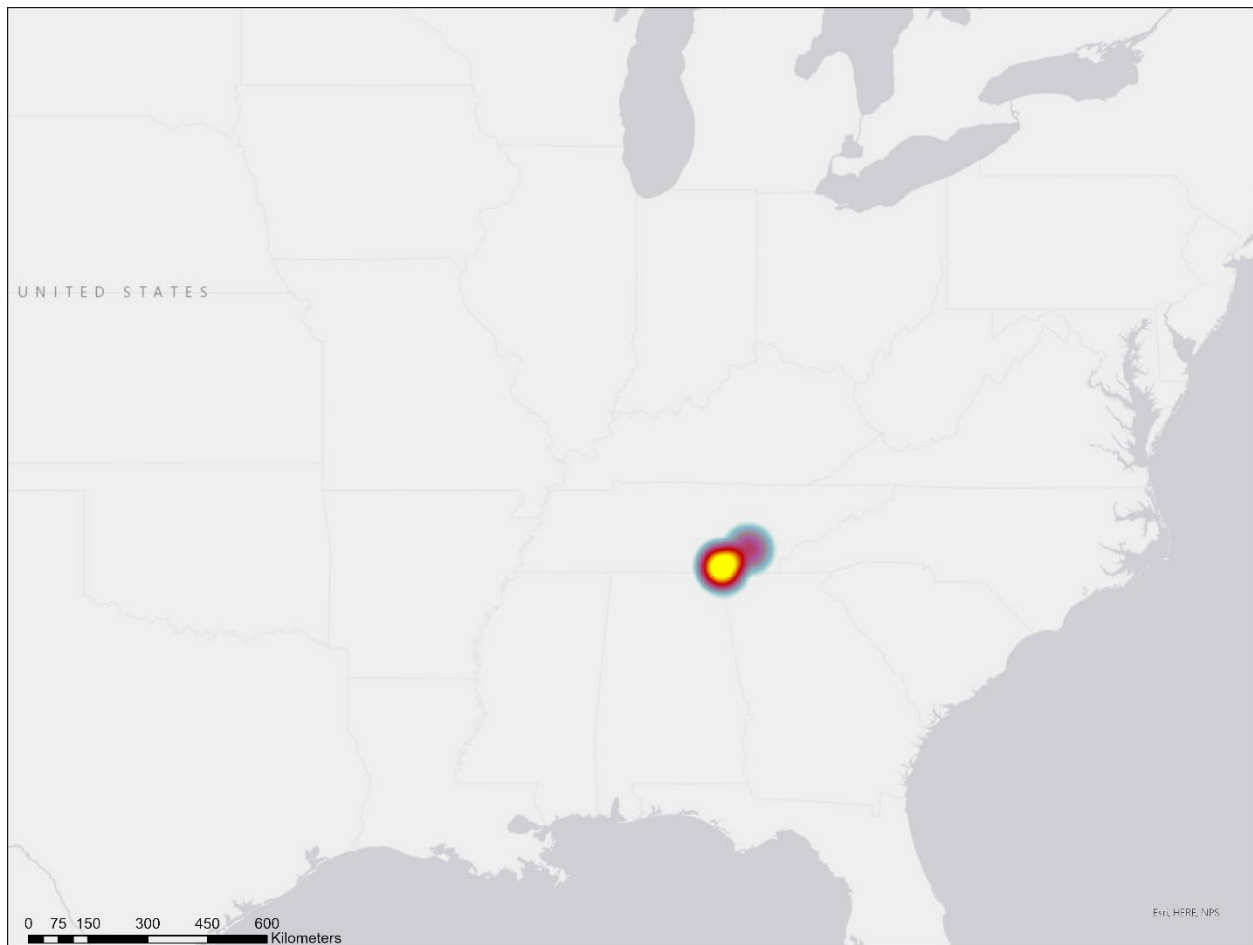


Figure 28: Heatmap of the distribution of Barrel style chunkey stones.

Unclassifiable (n=24)

Twenty-four of the probable chunky stones in the sample were unclassifiable, meaning they could not be classed as probable or uncertain examples of any of the styles discussed previously. With a larger sample, additional styles might be identified that some of these artifacts might fall into, but it is just as likely that most of these stones are examples of the countless local styles that probably came into being across the Eastern Woodlands as the chunky game tradition spread. It may not ultimately be useful to classify some of these artifacts as anything more specific than a probable chunky stone and to discuss their individual attributes.

7. Discussion and Conclusion

The results of the stylistic analysis make it clear that previous attempts at categorizing chunky stones, while undoubtedly useful, have not been able to fully explain important variation and patterns, and that further work in the domain of style is likely to be fruitful for understanding the chunky game tradition archaeologically. Of the four types defined by Perino (1971), Jersey Bluff and Salt River do not seem to be relevant outside of the small areas they were originally defined with a few possible exceptions. On the other hand, Perino's Cahokia and Bradley types appear to translate into real styles or style horizons with even broader distributions than originally described. This has implications when considered in tandem with previous arguments. For example, it has been known for decades that Cahokia-style chunky stones could be found at most major Mississippian sites, but when many of the Cahokia-style chunky stones described in the literature and found in collections were placed on a single map (Figure 11), it becomes even more apparent just how many sites the style can be found at. This remarkable distribution would seem to bolster Pauketat's arguments (2004, 2009) about the role of chunky games in spreading Mississippian culture, with the style appearing at sites like Aztalan, Chauga, Shiloh, Fort Ancient, Lake George, Spiro, Kincaid, Moundville, Obion, and Town Creek among others. There are undoubtedly examples that were not included in this sample that would expand the style's distribution farther.

The wide distribution of the Bradley style was surprising, as this style seems to postdate the Cahokia style and cannot be associated with the cultural influence of a single powerful site. Still, there is no doubt that this stylistic development occurred, and that the bi-convex Bradley style chunky stones are remarkably widely-distributed. One simple explanation for this development suggested by Perino (1971) is that with the decline of Cahokian cultural influence the style with

which chunky games were played changed and thus the style of chunky stones changed as well. It seems unlikely, however, that the same change in style would be observed at so many different sites throughout the Eastern Woodlands, and as such the Bradley style could benefit from more analysis.

While the Bradley and Cahokia styles are undoubtedly widely distributed and it is possible, and in the case of the Cahokia style, very likely that their spread is reflective of broader social trends, they are also illustrative of an important issue in stylistic interpretation. Although one can identify such widespread styles, stylistic continuity across the landscape alone does not necessarily translate into identical meaning and use patterns for observers. Chunky stones of a particular style may have arrived at different sites for different reasons, and while the Cahokia/Bradley styles may have been understood across their distributions as appropriate forms of chunky stones, or as chunky stones associated or not associated with Cahokia, the cultural and social context in which they were used could have been markedly different. In-depth analysis of the contexts of individual Cahokia and Bradley style chunky stones is required to clarify the degree to which these styles do or do not translate into similar meanings/uses on the local level.

To this point, the later development of a number of more spatially bounded styles such as Feurt, Davidson, and Tuckasegee suggests that in the wake of the official Cahokia version of the game that may have been associated with the Cahokia style, people across the Eastern Woodlands were practicing the same sort of reinterpretation and renegotiation of chunky games that Zych (2017) discussed with reference to his own sample of chunky stones from the Great Lakes. By developing our understanding of the stylistic canons governing chunky stones and their changes through time, this process can be seen in action even if the details of how the game

was changing in each area are not yet understood. While other lines of evidence are necessary to learn more about the specific beliefs, practices, and sociopolitical trends associated with each stone and style, a systematic understanding of the styles themselves remains crucial for answering questions like “what is a chunky stone at this moment in time?” and “what is a local vs. non-local form of a chunky stone?”, questions that are essential for making sound interpretations of their meanings and comparing patterns in these meanings over the landscape.

Almost all interpretations of chunky stones must inevitably engage with style, and thus an insufficient understanding of style can muddle the resulting arguments. For example, George (2001) references a number of “Mississippian Biconcave” chunky stones, interpreted as a sign of increased trade between Mississippian polities and the Monongahela. While some of these chunky stones certainly appear to be clear examples of the Cahokia style as George argues, others resemble “edge cases” displaying stylistic attributes common to both the Cahokia style and the more local Feurt style (see George 2001: figure 8 and figure 10a). In another figure (George 2001: figure 2a) a Davidson style chunky stone from western North Carolina is also misclassified as Jersey Bluff. These are instances where a more systematic understanding of chunky stone styles through time and across multiple regions might allow for a more specific and accurate interpretation of what was occurring at this moment in the past.

Zych (2017) and others have argued that well-defined types of any sort can be misleading, and styles are no exception. Especially when applied outside of their original contexts, they can result in erroneous interpretations and can perpetuate the need to classify all artifacts even if said classifications are forced. However, it must be recognized that a sufficiently large sample will in most cases ultimately allow for the identification and chronological ordering of various styles. As long as large, inter-regional data sets are considered and plenty of room is left for edge cases

and difficult to define local styles that do not always need highly precise classifications, a stylistic typology can still be useful for understanding the development of artifacts like chunky stones over time and provides a critical foundation for interpretation.

Conclusion and Future Directions

The goals of this study were twofold: the first was to systematically analyze the discoidal artifact class to identify which artifacts belong in the genre of chunky stone, and the second was to conduct a preliminary, multi-regional stylistic analysis of chunky stones with the goal of learning what styles might exist, what their stylistic canons were, where they appeared, and when they appeared. A robust understanding of style is essential for grounding interpretations of how the chunky game tradition developed through space and time. Perino's 1971 typology, commonly employed in literature relating to chunky stones since it was published, was re-evaluated in light of this stylistic analysis. It was found that the Cahokia and Bradley types defined by Perino translated into broadly distributed styles or style horizons while the Jersey Bluff and Salt River types probably represent more regionally specific styles. Several new styles of chunky stone were also defined, including Davidson, Feurt, and Tuckasegee.

While styles can be identified through the sort of analysis conducted here, speculating on the changes to the gameplay and cultural context of the game as well as larger-scale social trends that stylistic developments may represent requires in-depth analysis of other archaeological signatures of the chunky game tradition, including playing fields, iconographic representations, and the find contexts of individual chunky stones. Future projects could combine deeper investigations of these other essential lines of evidence with systematic stylistic analysis of large, multi-regional chunky stone/discoidal datasets and further clarify the early history of the game in the American Bottom and/or explore in more detail the processes associated with its later

spread. As chunky continues to be played today, collaboration between archaeologists and willing current players on any archaeological project would undoubtedly provide a plethora of valuable insights.

What is clear from this study and those that have come before is that the chunky game tradition has been a significant feature of life in the Eastern Woodlands for over 1,000 years and has persisted in spite of and indeed been a part of multiple major sociopolitical and cultural shifts. This makes it an essential subject of archaeological inquiry and an important piece of narratives of North American history. Wherever chunky stones are found, they should be treated seriously as invaluable items, often painstakingly cared for by the communities that used them, that can speak to the recreational practices, economic systems, political strategies, and religious beliefs of the societies and peoples that produced them.

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Appendix A: Historical Sources Discussing the Chunkey Game Tradition

Here I bring together a number of historical sources relating to the chunkey game tradition. They appear below in sequence along with the people and location associated with the source, the approximate date that the observations in the source were made, the year that the version used here was published, and the name of the author.

1. Houma, Louisiana, 1700. Published 1902. Authored by Jacques Gravier.

In the middle of the village a fine level square, where from morning to night there are young men who exercise themselves in running after a flat stone, which they throw in the air from one end of the square to the other, and which they try to have fall on two cylinders that they roll where they think that the stone will fall. (Gravier 1902: 143-144)

2. Eno and Shakori, Carolina Piedmont, Early 1700s. Published 1709. Authored by John Lawson.

These Indians are fortify'd in, as the former, and are much addicted to a Sport they call *Chenco*, which is carry'd on with a Staff and a Bowl made of Stone, which they trundle upon a smooth Place, like a Bowling-Green, made for that Purpose, as I have mention'd before. (Lawson 1709: 57)

3. Natchez, Louisiana, 1720s. Translation Published 1911. Authored by Dumont de Montigny.

The s*****s have still another kind of game in which they exercise themselves, not merely for amusement, but also to gain each other's property, to the point of ruining themselves. This is what is called "the cross." This game consists in throwing at the same time many poles 15 or 16 feet long and as thick as the fist after a bowl which rolls on a well pounded and very smooth piece of ground, such as is found in the center of each village. When the bowl stops that one whose pole is nearest this bowl wins the point. The play continues as far as *pocolé*, that is 10, and the s*****s often ruin themselves, as I have said, wagering on the game their powder, their guns, their skins, their *Limbourg*, in a word, all that they may have. (Swanton 1911: 202-203)

4. Natchez, Louisiana, 1720s. Translation Published 1900. Authored by Le Page du Pratz.

All nations are not equally ingenious at inventing feasts, shews, and diversions, for employing the people agreeably, and filling up the void of their usual employments.

The natives of Louisiana have invented but a very few diversions, and these perhaps serve their turn as well as a greater variety would do. The warriors practice a diversion which is called the game of *the pole*, at which only two play together at a time. Each has a pole about eight feet long, resembling a Roman f, and the game consists in rolling a flat round stone, about three inches diameter and an inch thick, with the edge somewhat sloping, and throwing the pole at the same time in such a manner, that when the stone rests, the pole may touch it or be near it. Both antagonists throw their poles at the same time, and he whose pole is nearest the stone counts one and has the right of rolling the stone. The men fatigue themselves much at this game, as they run after their poles at every throw; and some of them are so bewitched by it, that they game away one piece of furniture after another. These gamesters however are very rare, and greatly discountenanced by the rest of the people. (Le Page du Pratz 1900: 347)

5. Choctaw, Mississippi (?), 1740s-1760s. Published 1775. Authored by James Adair.

The warriors have another favorite game, called *Chungke*; which, with propriety of language, may be called “Running hard labor.” They have near their state house, a square piece of ground well cleaned, and fine sand is carefully strewed over it, when requisite, to promote a swifter motion to what they throw along the surface. Only one, or two on a side, play at this ancient game. They have a stone about two fingers broad at the edge, and two spans round: each party has a pole of about eight feet long, smooth, and tapering at each end, the points flat. The set off a-breast of each other at six yards from the end of the play ground; then one of them hurls the stone on its edge, in as direct a line as he can, a considerable distance toward the middle of the other end of the square: when they have ran a few yards, each darts his pole anointed with bear’s oil, with a proper force, as near as he can guess in proportion to the motion of the stone, that the end may lie close to the stone – when this is the case, the person counts two of the game, and, in proportion to the nearness of the poles to the mark, one is counted, unless by measuring, both are found to be an equal distance from the stone. In this manner, the players will keep most part of the day, at half speed, under the violent heat of the sun, staking their silver ornaments, their nose, finger, and ear rings; their breast, arm, and wrist plates, and even all their wearing apparel, except that which barely covers their middle. All the American Indians are much addicted to this game, which to us appears to be a task of stupid drudgery: it seems however to be of early origin, when their fore-fathers used diversions as simple as their manners. The hurling stones the use at present, were time immemorial rubbed smooth on the rocks, and with prodigious labor, they are kept with the strictest religious care, from one generation to another, and are exempted from being buried with the dead. They belong to the town where they are used, and are carefully preserved. (Adair 1775: 402)

6. Overhill Cherokee, Tennessee (?), 1760s. Published 2007. Authored by Henry Timberlake.

Some days after my reception at Chilhowey, I had an opportunity of seeing some more of their diversions. Two letters I received from some officers at the Great Island occasioned a great assembly at Chote, where I was conducted to read them; but the Indians finding nothing that regarded them, the great part resolved to amuse themselves at a game they call nettecawaw, which I can give no other description of, than that each player having a pole about ten feet long, with several marks or divisions, one of them bowls a round stone, with one flat side, and the other convex, on which the players all dart their poles after it, and the nearest counts according to the vicinity of the bowl to the marks on his pole. (Timberlake and King 2007: 38)

7. Chickasaw and Choctaw Territory, Early 1770s. Published 1776. Authored by Bernard Romans.

Their favorite game of *chunké* is a plain proof of the evil consequences of a violent passion for gaming upon all kinds, classes, and orders of men; at this they play from morning till night, with an unwearied application, and they bet high; here you may see a s****e come and bring all his skins, stake them and lose them; next his pipe, his beads, trinkets and ornaments; at last his blanket, and other garment, and even all their arms, and after all it is not uncommon for them to go home, borrow a gun and shoot themselves; an instance of his happened in 1771 at East Yasoo a short time before my arrival. Suicide has also been practiced here on other occasions, and they regard the act as a crime, and bury the body as unworthy of their ordinary funeral rites.

The manner of playing the game is thus: they make an alley of about two hundred feet in length, where a very smooth caly (sic) ground is laid, which when dry is very hard; they play two together having each a straight pole of about fifteen feet long; one holds a stone, which is in shape of a truck, which he throws before him over this alley, and the instant of its departure, they set off and run; in running they cast their poles after the stone, he that did not throw it endeavors to hit it, the other strives to strike the pole of his antagonist in its flight so as to prevent its hitting the stone; and if the other by the dexterity of his cast should prevent the pole of his opponent hitting the stone, he counts one, but should both miss their aim the throw is renewed; and in case a score is won the winner casts the stone and eleven is up; they hurl this stone and pole with wonderful dexterity and violence, and fatigue themselves much at it. (Romans 1776: 80)

8. Muskogee Territory, 1770s. Published 1849. Authored by William Bartram.

The ‘chunk yards’ of the Muscogulges, or Creeks, are rectangular areas, generally occupying the center of the town. The public square and rotunda, or great winter council house, stand at the two opposite corners of them. They are generally very extensive, especially in the large old towns. Some of them are from 600 to 900 feet in length, and of proportionate breadth. The area is exactly level, and sunk 2, sometimes

3 feet below the banks or terraces surrounding them, which are occasionally two in number, one behind and above the other, and composed of the earth taken from the area at the time of its formation. These banks or terraces serve the purpose of seats for the spectators. In the center of this yard or area there is a low circular mound or eminence, in the middle of which stands erect the chunk pole, which is a high obelisk or four-square pillar declining upwards to an obtuse point. This is of wood, the heart or inward resinous part of a sound pine tree, and is very durable; it is generally from 30 to 40 feet in height, and to the top is fastened some object which serves as a mark to shoot at, with arrows or the rifle, at certain appointed times. Near each corner of one end of the yard stands erect a less pole or pillar, about 12 feet high, called a "slave post," for the reason that to them are bound the captives condemned to be burnt. These posts are usually decorated with the scalps of slain enemies, suspended by strings from the top. They are often crowned with the white dry skull of an enemy. It thus appears that this area is designed for a public place of exhibition, for shows, games, etc. (Bartram 1849: 135)

9. Muskogee, Georgia, Late 1700s and Early 1800s. Published 1848. Authored by Benjamin Hawkins.

The Micco, counselors and warriors, meet every day in the public square, sit and drink a-cee, a strong decoction of the cassine yupon, called by the traders black drink: talk of news, the public, and domestic concerns, smoke their pipes, and play thla-chal-litch-cau, 'roll the bullet.' (Hawkins 1848: 71)

10. Mandan, Upper Missouri River, 1830s. Published 1876. Authored by George Catlin.

The games and amusements of these people are in most respects like those of other tribes, consisting of ball plays-game of the moccasin, of the platter-feats of archery-horse-racing, etc; and they have yet another, which may be said to be their favorite amusement, and unknown to other tribes about them. The game of Tchung-kee, a beautiful athletic exercise, which they seem to be almost unceasingly practicing whilst the weather is fair, and they have nothing else of the moment to demand their attention. This game is decidedly their favorite amusement, and is played near to the village on a pavement of clay, which has been used for that purpose until it has become as smooth and hard as a floor. For this game two champions form their respective parties, by choosing alternately the most famous players, until their requisite numbers are made up. Their bettings are then made, and their stakes are held by some of the chiefs and others present. The play commences with two (one from each party), who start off upon a trot, abreast of each other, and one of them rolls in advance of them, on the pavement, a little ring of two or three inches in diameter, cut out of a stone; and each one follows it up with his "tchung-kee" (a stick of six feet in length, with little bits of leather projecting from its sides of an inch or more in length), which he throws before him as he runs, sliding it along upon the ground after the ring, endeavoring to place it in such a position when it stops, that the ring may fall

upon it, and receive one of the little projections of leather through it, which counts for game, one, or two, or four, according to the position of the leather on which the ring is lodged. The last winner always has the rolling of the ring, and both start and throw tchung-kee together; if either fails to receive the ring or to lie in a certain position, it is a forfeiture of the amount of the number he was nearest to, and he loses his throw; when another steps into his place. This game is a very difficult one to describe, so as to give an exact idea of it, unless one can see it played – it is a game of great beauty and fine bodily exercise, and these people become excessively fascinated with it; often gambling away every thing they possess, and even sometimes, when everything else was gone, have been known to stake their liberty upon the issue of these games, offering themselves as slaves to their opponents in case they get beaten. (Catlin 1876: 132)

11. Choctaw, Mississippi (?), 1870s-1880s. Published 1888. Authored by H. S. Halbert.

Some ten years ago there lived in Neshoba county an aged Choctaw named Mehubbee, who had often seen the achahpih game played in his youth, and who still had an achahpih stone in his possession. One day in the summer of 1876, this aged Indian prepared an achahpih yard, in an old field on Talasha Creek, and instructed some young Choctaws how to play this almost forgotten game of their forefathers. This was, undoubtedly, the last time this ancient Indian game was ever played in the State of Mississippi. From a recent conversation with one of the players on that occasion, the following facts about the achahpih are here given:

A level piece of ground is selected, and an achahpih yard (ai achahpih) is laid off, being about one hundred feet long and twelve feet wide. The yard is cleared off, tramped hard and made as smooth and level as possible. The achahpih poles were made of small, slender swamp hickory saplings, from which the bark was stripped, and the poles scraped down perfectly smooth and then seasoned over a fire. They were about ten feet long and the size of an ordinary hoe handle. The head or striking end of the pole (noshkobo) was made rounded. Near the head were cut around the pole four parallel notches or grooves. One-fourth of the way down were cut two more notches, and then a single notch around the center of the pole, making seven notches in all. Twelve was the number of the achahpih game, and the play alternated from one end the yard to the other. Two men played the game. Taking their stand at one end of the yard, a third man stood between them, whose duty it was to roll the stone towards the other end. The two players, whom we will name Hoentubbee and Tonubbee, held their poles, so to speak, in a pitching position; that is, with one end of the pole resting against the palm and on the upturned fingers of the right hand, which was thrust to the rearward, while the body of the pole rested loosely in the left hand. As soon as the thrower had launched the stone, and it began to roll along the ground towards the other end of the yard, both players darted their poles at it, each endeavoring to strike it with the head. Their object in hitting the stone was, that in so doing, there was a greater probability than otherwise, of the pole of the striker and the stone stopping

and lying near each other. As soon as the throw was completed, the distance of the nearest notch or notches on the respective poles was then measured. If, for instance, the four notches on Hoentubbee's pole should lie nearest to the stone, and nearer than any of the notches on Tonubbee's pole, then Hoentubbee counted four for himself. If, however, the single notch around Hoentubbee's pole should be the nearest of all the notches on either of the poles, then Hoentubbee counted one for himself. And if Hoentubbee's two notches should lie nearest of all to the pole, then Hoentubbee counted two of the game for himself. If the nearest notch or notches on each pole should be exactly the same distance from the stone, then it was a tied game, and both parties tried it over. Sometimes, by extraordinary good fortune, the achahpih player could make the game in three throws, making four each time. If two achahpih players should happen to have no one to throw the stone for them, they then threw it, alternately, for each other. The achahpih play was not unfrequently kept up during the entire day. As usual in all Indian games, there was much betting on the ground, both by players and spectators. My informant considered the achahpih as a very tedious game, and expressed some surprise that his ancestors should have taken any pleasure in such a dull, uninteresting pastime. (Halbert 1888: 283-284)

12. Choctaw, Reservation in Texas, 1880s-1890s. Published 1899. Authored by Horatio Cushman.

They also indulged in another game in which they took great delight, called Ulth Chuppih, in which two players could engage at the same time; but upon the result of which, as in the Tolih, they frequently bet their all. An alley, with a hard smooth surface and about two hundred feet long, was made upon the ground. The two players took a position at the upper end at which they were to commence the game, each having in his hand a smooth, tapering pole eight or ten feet long flattened at the ends. A smooth round stone of several inches in circumference was then brought into the arena; as soon as both were ready, No. 1 took the stone and rolled it with all his strength down the narrow inclined plane of the smooth alley; and after which both instantly started with their utmost speed. Soon No. 2, threw his pole at the rolling stone; instantly No. 1, threw his at the flying pole of No. 2, aiming to hit it, and, by so doing, change its course from the rolling stone. If No. 2 hits the stone, he counts one; but if No. 1 prevents it by hitting the pole No. 2, he then counts one; and he who hits his object the greater number of times in eleven rollings of the stone, was the winner. It was a more difficult matter to hit either the narrow edge of the rolling stone, or the flying pole, than would be at first imagined. However, the ancient Chahtah Ulte Chupih may come in at least as a worthy competitor with the pale-face Ten-pin-alley, for the disputed right of being the more dignified amusement. (Cushman 1899: 190)

Appendix B: Raw Data

Table 11 (next page) displays the raw data used for the stylistic and distributional study. Some of the columns have been excised due to space restrictions. The original spreadsheet with no modifications and the pictures of each artifact utilized are available by request to the author on a case-by-case basis.

Abbreviations used in the table are as follows:

US: Unspecified

PCS: Probable Chunkey Stone

SD: Small Discoidal

UC: Uncertain

UM: Unmeasurable

Specimen Number	Full Provenience	Date	Max Diameter	Max Thickness	Genre	Style	Face Shape	Face Chars.	Edge Shape	Lip Size	Surface Incisions	Material	Source
211	Site Ms 91, Marshall County, Alabama	US	US	0.00	PCS	???	Planar	None	UM	0.0000	Possible incision	Stone	Webb and Wilder 1951: Plate 33
212	Site Jav 28, Jackson County, Alabama	US	6.35	0.00	PCS	???	Planar	None	UM	0.0000	Cross	Stone	Webb and Wilder 1951: Plate 52
213	Site Jao 101, Jackson County, Alabama	Gunterlands IV	US	0.00	SD	???	Planar	None	UM	0.0000	None	Stone	Webb and Wilder 1951: Plate 57
215	Site Jav 155a, Crow Creek Island, Jackson County, Alabama	US	5.08	0.00	PCS	???	Planar	None	UM	0.0000	None	Stone	Webb and Wilder 1951: Plate 62
207	Irvin Site, near Caryville in Campbell County, Tennessee	US	US	0.00	PCS	???	Concave	None	UM	0.3750	None	Stone	Webb 1938: 56
209	Site Lu 72, Lauderdale County, Alabama	US	3.81	0.00	UC	???	Concave	None	Flat	0.6250	None	Stone	Webb and DeJarnette 1942: 211
210	Site Lu 92, Koger's Island, Lauderdale County, Alabama	US	US	0.00	PCS	???	Concave	None	UM	0.2500	None	Stone	Webb and DeJarnette 1942: 223
197	Aztalan Site, Jefferson County, Wisconsin	Mississippian	4.10	0.00	UC	???	Concave	None	UM	0.5000	None	Stone	Barret 1933: 277
31	Clark's Work, Paint Creek, Ohio	US	US	0.00	SD	???	Planar	None	Flat	0.0000	None	Dense ferruginous stone with flakes of yellow mica	Squier and Davis 1848: 221
30	Clark's Work, Paint Creek, Ohio	US	US	0.00	UC	???	Planar	None	Arched	0.0000	None	Dense ferruginous stone with flakes of yellow mica	Squier and Davis 1848: 221
2	???, Georgia	US	US	0.00	UC	???	Concave	None	Flat	0.1000	None	Greenstone	Jones 1873: 349
3	???, Georgia	US	US	0.00	UC	???	Convex	None	Flat	0.0000	None	Agate	Jones 1873: 349
1	???, Georgia	US	US	0.00	SD	???	Planar	None	Flat	0.0000	None	Pudding stone	Jones 1873: 349
174	Shiloh Site, Tennessee	US	7.80	0.00	PCS	???	Planar	Dimple	UM	0.0000	None	Stone	Welch 2005: 92
175	Shiloh Site, Tennessee	US	9.00	0.00	PCS	???	Planar	Dimple	UM	0.0000	None	Stone	Welch 2005: 92
12	Lafayette County, Mississippi	US	US	0.00	UC	???	Planar	None	Flat	0.0000	None	US with cracked limonite coating	Brown 1992: 166
228	Carter Robinson Site, Lee County, Virginia	1300-1400	2.28	0.69	SD	???	Planar	None	UM	0.0000	None	Stone	Bryant 2019: 81
229	Carter Robinson Site, Lee County, Virginia	1300-1400	2.37	0.86	SD	???	Planar	None	UM	0.0000	None	Stone	Bryant 2019: 81
230	Carter Robinson Site, Lee County, Virginia	1300-1400	3.39	1.22	UC	???	Planar	None	Arched	UM	None	Stone	Bryant 2019: 82
231	Carter Robinson Site, Lee County, Virginia	1300-1400	US	0.00	PCS	???	Concave	UM	UM	UM	None	Stone	Bryant 2019: 83
195	Lake George Site, Yazoo County, Mississippi	Mississippian	8.50	3.50	PCS	???	Concave	None	Arched	0.2500	None	Stone	Williams and Brain 1983: 257
238	Hiwassee Island, Meigs County, Tennessee	Dallas Component	4.80	0.00	UC	???	Planar	None	Flat	0.0000	None	Stone	Lewis and Kneburg 1946: 121
249	Hiwassee Island, Meigs County, Tennessee	Dallas Component	4.50	0.00	UC	???	Concave	None	Arched	0.1250	None	Stone	Lewis and Kneburg 1946: 121
250	Hiwassee Island, Meigs County, Tennessee	Dallas Component	4.10	0.00	UC	???	Concave	None	UM	0.2500	None	Stone	Lewis and Kneburg 1946: 121
251	Hiwassee Island, Meigs County, Tennessee	Dallas Component	4.40	0.00	UC	???	Concave	None	UM	0.6250	Cross	Stone	Lewis and Kneburg 1946: 121
252	Hiwassee Island, Meigs County, Tennessee	Dallas Component	4.30	0.00	UC	???	Planar	Perforated	UM	0.0000	Radiating lines	Stone	Lewis and Kneburg 1946: 121
247	Hiwassee Island, Meigs County, Tennessee	Dallas Component	3.00	0.00	SD	???	Concave	Perforated	UM	0.5000	None	Stone	Lewis and Kneburg 1946: 121
248	Hiwassee Island, Meigs County, Tennessee	Dallas Component	2.50	0.00	SD	???	Concave	Perforated	UM	0.5625	None	Stone	Lewis and Kneburg 1946: 121
253	Hiwassee Island, Meigs County, Tennessee	Dallas Component	3.00	0.00	SD	???	Planar	Dimple	UM	0.0000	None	Stone	Lewis and Kneburg 1946: 121
241	Hiwassee Island, Meigs County, Tennessee	Dallas Component	3.90	0.00	UC	???	Planar	None	UM	0.0000	None	Stone	Lewis and Kneburg 1946: 121
242	Hiwassee Island, Meigs County, Tennessee	Dallas Component	3.60	0.00	UC	???	Planar	None	UM	0.0000	None	Stone	Lewis and Kneburg 1946: 121
243	Hiwassee Island, Meigs County, Tennessee	Dallas Component	3.80	0.00	UC	???	Planar	None	UM	0.0000	Cross	Stone	Lewis and Kneburg 1946: 121
40	Rock Hill, York County, South Carolina	US	14.90	0.00	PCS	???	Concave	None	Arched	0.4500	None	Stone	NMAI Catalog Number 1/8787
64	Union County, Mississippi	US	4.45	0.00	SD	???	Planar	None	UM	0.0000	None	Stone	NMNH Accession Number 017928 (a)
65	Union County, Mississippi	US	3.81	0.00	SD	???	Planar	None	UM	0.0000	None	Stone	NMNH Accession Number 017928 (b)
66	Union County, Mississippi	US	5.72	0.00	UC	???	Planar	None	UM	0.0000	None	Stone	NMNH Accession Number 017928 (c)
68	Union County, Mississippi	US	6.35	0.00	UC	???	Planar	None	UM	0.0000	None	Stone	NMNH Accession Number 017928 (e)
69	Union County, Mississippi	US	4.06	0.00	SD	???	Planar	None	UM	0.0000	None	Stone	NMNH Accession Number 017928 (f)
70	Union County, Mississippi	US	5.08	0.00	SD	???	Planar	None	UM	0.0000	None	Stone	NMNH Accession Number 017928 (g)
57	Marksville, Avoyelles Parish, Louisiana	US	6.10	0.00	PCS	???	Concave	None	Arched	0.5000	None	Stone	NMNH Accession Number 125988
54	Bluestone Reservoir, Summers County, West Virginia	US	5.08	0.00	SD	???	Planar	None	Flat	0.0000	None	Stone	NMNH Accession Number 187541
72	Troup County, Georgia	US	4.57	0.00	SD	???	Planar	None	Flat	0.0000	None	Stone	NMNH Accession Number 13740

Specimen Number	Full Provenience	Date	Max Diameter	Max Thickness	Genre	Style	Face Shape	Face Chars.	Edge Shape	Lip Size	Surface Incisions	Material	Source
44	Charleston, Polk County, Tennessee	US	10.16	0.00	UC	???	Convex	None	UM	0.0000	None	Stone	NMNH Accession Number 14255
45	Charleston, Polk County, Tennessee	US	5.08	0.00	UC	???	Planar	None	Flat	0.0000	None	Stone	NMNH Accession Number 14255
46	Charleston, Polk County, Tennessee	US	1.91	0.00	SD	???	Planar	None	Flat	0.0000	None	Stone	NMNH Accession Number 14255
47	Charleston, Polk County, Tennessee	US	3.18	0.00	SD	???	Planar	None	Flat	0.0000	None	Stone	NMNH Accession Number 14255
48	Charleston, Polk County, Tennessee	US	3.56	0.00	SD	???	Planar	None	Flat	0.0000	None	Stone	NMNH Accession Number 14255
49	Charleston, Polk County, Tennessee	US	2.54	0.00	SD	???	Planar	None	Flat	0.0000	None	Stone	NMNH Accession Number 14255
50	Charleston, Polk County, Tennessee	US	2.54	0.00	SD	???	Planar	None	Flat	0.0000	None	Stone	NMNH Accession Number 14255
51	Charleston, Polk County, Tennessee	US	3.81	0.00	SD	???	Planar	None	Flat	0.0000	None	Stone	NMNH Accession Number 14255
52	Charleston, Polk County, Tennessee	US	2.79	0.00	SD	???	Planar	None	Flat	0.0000	None	Stone	NMNH Accession Number 14255
189	Hardins Site, Gaston County, North Carolina	1400-1600	6.90	2.50	PCS	???	Planar	None	Flat	0.0000	None	Stone	UNC-RLA Catalog Number 2087a24
161	Hartley Site, Pennsylvania	Middle Monongahela + 6.50	0.00	0.00	PCS	???	Concave	Perforated	UM	0.3750	None	Sandstone	George 2001: Fig. 6
97	Brakebill Mound, Knox County, Tennessee	1300 - 1600	5.00	3.30	SD	???	Planar	None	UM	0.0000	None	Stone	Peabody Museum Number 69-32-10/2228
98	Brakebill Mound, Knox County, Tennessee	1300 - 1600 AD	4.09	1.80	SD	???	Planar	None	Flat	0.0000	None	Stone	Peabody Museum Number 69-32-10/2229
99	Brakebill Mound, Knox County, Tennessee	1300 - 1600 AD	4.50	2.39	SD	???	Planar	None	UM	0.0000	None	Stone	Peabody Museum Number 69-32-10/2230
100	Tennessee State Site #40Mi8, Marion County, Tennessee	US	11.00	3.51	PCS	???	Concave	Perforated	Arched	0.1500	None	Stone	Peabody Museum Number 69-32-10/2299
91	Roane County, Tennessee	900 BC - 900 AD	3.20	1.70	SD	???	Concave	None	UM	0.2500	None	Stone	Peabody Museum Number 72-28-10/7083
92	Roane County, Tennessee	900 BC - 900 AD	3.61	1.30	SD	???	Planar	None	UM	0.0000	None	Stone	Peabody Museum Number 72-28-10/7084
101	Bowling Farm Site, Davidson County, Tennessee	1000 - 1450 AD	7.70	4.19	PCS	???	Concave	None	Arched	0.2000	None	Stone	Peabody Museum Number 77-65-10/12343
78	Clermont County, Ohio	US	5.87	3.33	PCS	???	Concave	None	Arched	0.2500	None	Stone	Peabody Museum Number 78-52-10/15594
87	Gray's Farm, Williamson County, Tennessee	1000 - 1450 AD	3.71	1.80	SD	???	Planar	Dimple	Arched	0.0000	None	Stone	Peabody Museum Number 78-6-10/15865
93	Gray's Farm, Williamson County, Tennessee	1000 - 1450 AD	3.20	1.91	SD	???	Planar	Dimple	UM	0.0000	None	Stone	Peabody Museum Number 78-6-10/15866
108	Grave 13, Fisher-Reams Site, Williamson County, Tennessee	1000 - 1450 AD	5.41	2.39	PCS	???	Concave	None	Arched	0.2000	None	Stone	Peabody Museum Number 78-6-10/15971
88	Arnold Site, Williamson County, Tennessee	1000 - 1450 AD	4.29	2.39	SD	???	Planar	None	UM	0.0000	None	White ceramic	Peabody Museum Number 79-4-10/18262
89	Banister's Field, Stewart County, Tennessee	1000 - 1450 AD	6.81	3.10	UC	???	Concave	None	Arched	0.5000	None	Stone	Peabody Museum Number 79-4-10/18344
109	Grave 20, Stone Grave Cemetery, Stewart County, Tennessee	1000 - 1450 AD	5.99	2.49	UC	???	Concave	None	UM	0.2500	None	Ceramic	Peabody Museum Number 79-4-10/18450
102	Grave 31, Mrs. William's Farm, Stewart County, Tennessee	1000 - 1450 AD	6.71	3.20	PCS	???	Concave	None	UM	0.2500	Red ochre stains	Stone	Peabody Museum Number 79-4-10/18454
204	Pierce Site, Franklin County, Florida	1000-1400	3.80	2.00	UC	???	Planar	None	Arched	0.0000	None	Stone	White 2013: 171
200	Ardell Bluff Site, Blount County, Alabama	980-1260?	3.86	3.18	SD	???	Planar	None	Arched	0.0000	None	Stone	Bishop 2016: 59
232	Eaton Site, West Seneca, New York	Mid 1500s	US	0.00	UC	???	Convex	None	Arched	UM	None	Stone	William et al. 2018: 45
26	Cemeteries near Nashville, Tennessee	US	US	0.00	SD	???	Planar	Dimple	Arched	0.0000	None	Cannel coal	Thruston 1890: 267
27	Cemeteries near Nashville, Tennessee	US	US	0.00	SD	???	Planar	Dimple	Flat	0.0000	Two circular depressions on top	Nearly pure yellowish quartz	Thruston 1890: 267
28	Cemeteries near Nashville, Tennessee	US	US	0.00	SD	???	Planar	Dimple	Sloping	0.0000	None	Compact silicious stone	Thruston 1890: 267
29	Carthage, Alabama	US	US	0.00	UC	???	Planar	None	Flat	0.0000	None	US with peeling limonite or hematite coating	Thruston 1890: 273
234	Chauga Site, Oconee County, South Carolina	1000-1700s	US	0.00	UC	???	Concave	None	Flat	0.5625	None	Stone	Kelly and Neitzel 1961: Plate IX
130	Feurt Mounds, Ohio	US	US	0.00	UC	???	Planar	None	Flat	0.0000	Cross	Stone	Mills 1917: 384
134	Feurt Mounds, Ohio	US	US	0.00	UC	???	Planar	None	Flat	0.0000	Circle and cross	Stone	Mills 1917: 387
135	Feurt Mounds, Ohio	US	US	0.00	UC	???	Concave	None	UM	0.3125	Deep incised circular line	Stone	Mills 1917: 387
136	Feurt Mounds, Ohio	US	US	0.00	UC	???	Planar	None	Flat	0.0000	Squares and cross	Stone	Mills 1917: 387
138	Feurt Mounds, Ohio	US	US	0.00	UC	???	Concave	None	UM	0.5625	None	Stone	Mills 1917: 387
139	Feurt Mounds, Ohio	US	US	0.00	UC	???	Concave	Perforated	UM	0.2000	Lines radiating from perforation	Stone	Mills 1917: 387
144	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	UC	???	Concave	None	UM	0.5625	None	Stone	Smith 1910: Plate XLIII
145	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	PCS	???	Concave	None	Flat	0.2500	Cross	Stone	Smith 1910: Plate XLIII
147	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	UC	???	Concave	Perforated	UM	0.2500	Incisions	Stone	Smith 1910: Plate XLIV

Specimen Number	Full Provenience	Date	Max Diameter	Max Thickness	Genre	Style	Face Shape	Face Chars.	Edge Shape	Lip Size	Surface Incisions	Material	Source
148	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	UC	???	Planar	None	UM	0.0000	Cross	Stone	Smith 1910: Plate XLIV
153	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	UC	???	Concave	None	UM	0.3750	None	Stone	Smith 1910: Plate XLIV
156	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	UC	???	Concave	None	Flat	0.5000	None	Stone	Smith 1910: Plate XLIV
157	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	UC	???	Planar	None	Flat	0.0000	Cross	Stone	Smith 1910: Plate XLIV
159	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	PCS	???	Concave	None	UM	0.4375	None	Stone	Smith 1910: Plate XLIV
17	Cumberland River Valley, Kentucky	US	US	0.00	SD	???	Planar	None	Flat	0.0000	None	Quartzite	Moorehead 1910: 445
178	Town Creek Indian Mound, North Carolina	Mississippian	5.50	0.00	PCS	???	Planar	None	UM	0.0000	None	Stone	Coe 1995: 284
179	Town Creek Indian Mound, North Carolina	Mississippian	6.00	0.00	PCS	???	Planar	None	UM	0.0000	None	Stone	Coe 1995: 284
180	Town Creek Indian Mound, North Carolina	Mississippian	6.60	0.00	PCS	???	Concave	None	UM	0.3750	None	Stone	Coe 1995: 284
181	Town Creek Indian Mound, North Carolina	Mississippian	5.50	0.00	PCS	???	Planar	None	Flat	0.0000	None	Stone	Coe 1995: 284
224	Andrews Site, Mobile County, Alabama	US	7.60	2.90	PCS	???	Planar	None	Flat	0.0000	None	Stone	Boatwright 2015: 71
218	Hiwassee Island, Meigs County, Tennessee	Dallas Component	8.00	0.00	PCS	???	Planar	None	Flat	0.0000	None	Stone	Lewis and Kneburg 1946: 121
62	Mansura, Avoyelles Parish, Louisiana	US	8.00	0.00	PCS	???	Planar	None	Flat	0.0000	None	Stone	NMNH Accession Number 092317
222	Busse's Island, Loudon County, Tennessee	US	8.13	0.00	PCS	???	Planar	None	Flat	0.0000	None	Stone	Harrington 1920: 265
223	Busse's Island, Loudon County, Tennessee	US	5.72	0.00	PCS	???	Planar	None	Flat	0.0000	None	Stone	Harrington 1920: 265
103	Grave 31, Mrs. William's Farm, Stewart County, Tennessee	1000 - 1450 AD	7.39	2.59	PCS	???	Planar	None	Flat	0.0000	None	Stone	Peabody Museum Number 79-4-10/18455
116	Moundville, Alabama	Moundville	9.50	0.00	PCS	???	Planar	None	Flat	0.0000	None	Stone	R.S. Peabody Museum, Andover Identifier 27971
67	Union County, Mississippi	US	7.87	0.00	UC	???	Planar	None	Flat	0.0000	None	Stone	NMNH Accession Number 017928 (d)
117	Moundville, Alabama	Moundville	7.50	0.00	UC	???	Planar	None	Flat	0.0000	None	Stone	R.S. Peabody Museum, Andover Identifier 27973
38	Rock Hill, York County, South Carolina	US	6.10	0.00	PCS	???	Concave	None	Arched	0.5000	None	Stone	NMAI Catalog Number 1/8787
15	Copiah County, Mississippi	US	US	0.00	UC	???	Concave	None	Arched	0.5000	None	Granite	Brown 1992: 169
107	Grave 6, Stone Grave Mound, Davidson County, Tennessee	1000 - 1450 AD	3.51	2.11	UC	???	Concave	None	Arched	0.3750	None	Stone	Peabody Museum Number 79-4-10/17235
220	Hiwassee Island, Meigs County, Tennessee	Hamilton Component	US	0.00	PCS	Barrel	Planar	None	Arched, Barrel	0.0000	None	Stone	Harrington 1920: 265
80	Turner's Mound, Marion County, Tennessee	900 BC - 900 AD?	12.22	12.07	PCS	Barrel	UM	UM	Barrel	0.0000	None	Stone	Peabody Museum Number 69-32-10/2262
90	Turner's Mound, Marion County, Tennessee	900 BC - 900 AD	8.99	6.81	PCS	Barrel	Concave	None	Flat, Barrel	0.1250	None	Stone	Peabody Museum Number 69-32-10/2263
25	Nickajack Cave, Tennessee	US	10.16	8.26	PCS	Barrel	Concave	Second Cup	Barrel	0.1000	None	Granite	Thruston 1890: 265
23	???, Kentucky	US	US	0.00	PCS	Barrel	Concave	Second Cup	Barrel	0.2000	None	Hard, light-colored stone	Moorehead 1910: 447
208	Site Ma 1, Hobbs Island, Madison County, Alabama	US	10.16	5.08	PCS	Bradley	Convex	None	UM	0.0000	None	Stone	Webb 1939: 86
14	Mound on Silver Creek on Yazoo County, Mississippi	US	9.14	4.06	PCS	Bradley	Convex	None	Arched	0.0000	None	Pudding stone	Brown 1992: 168
227	Carter Robinson Site, Lee County, Virginia	1300-1400	5.09	1.02	PCS	Bradley	Convex	None	UM	0.0000	X-shape (not true cross)	Stone	Bryant 2019: 81
225	Andrews Site, Mobile County, Alabama	US	6.60	3.30	PCS	Bradley	Convex	None	Flat	0.0000	None	Stone	Boatwright 2015: 71
121	Lowndes County, Georgia	1300 AD	11.00	0.00	PCS	Bradley	Convex	None	Flat	0.0000	None	Conglomerate Stone	Brown 2004: 110
124	Beck Site, Crittenden County, Arkansas	1300-1500 AD	14.00	0.00	PCS	Bradley	Convex	None	Flat	0.0000	None	Kaolin	Brown 2004: 111
125	Mississippi County, Arkansas	1200-1600 AD	7.60	0.00	PCS	Bradley	Convex	None	Flat	0.0000	None	Quartzite	Brown 2004: 111
219	Hiwassee Island, Meigs County, Tennessee	Dallas Component	8.60	0.00	PCS	Bradley	Convex	None	UM	0.0000	None	Stone	Lewis and Kneburg 1946: 121
61	Queen Ann County, Maryland	US	7.62	0.00	PCS	Bradley	Convex	None	UM	0.0000	None	Stone	NMNH Accession Number 109986
56	Marksville, Avoyelles Parish, Louisiana	US	8.00	0.00	PCS	Bradley	Convex	None	UM	0.0000	None	Stone	NMNH Accession Number 125988
188	Coweeta Creek Site, Macon County, North Carolina	1400-1700	7.50	3.40	PCS	Bradley	Convex	None	Arched	0.0000	None	Stone	UNC-RLA Catalog Number 2020a8717
201	King Site, Floyd County, Georgia	Mid 1500s	8.60	3.30	PCS	Bradley	Convex	None	UM	0.0000	None	Stone	Halley 2008: 237
203	King Site, Floyd County, Georgia	Mid 1500s	9.30	3.80	PCS	Bradley	Convex	None	Flat	0.0000	None	Stone	Halley 2008: 237
115	Moundville, Alabama	Moundville	7.40	0.00	PCS	Bradley	Convex	None	UM	0.0000	None	Stone	NMNH Identifier Rw500

Specimen Number	Full Provenience	Date	Max Diameter	Max Thickness	Genre	Style	Face Shape	Face Chars.	Edge Shape	Lip Size	Surface Incisions	Material	Source
95	Brakebill Mound, Knox County, Tennessee	1300 - 1600 AD	5.21	2.49	PCS	Bradley	Convex	None	UM	0.0000	None	Stone	Peabody Museum Number 69-32-10/2226
96	Brakebill Mound, Knox County, Tennessee	1300 - 1600	5.69	2.49	PCS	Bradley	Convex	None	UM	0.0000	None	Stone	Peabody Museum Number 69-32-10/2227
104	Greene County, Tennessee	1000 - 1600 AD	6.30	2.79	PCS	Bradley	Convex	None	Flat	0.0000	None	Stone	Peabody Museum Number 71-5-10/2948
94	Gray's Farm, Williamson County, Tennessee	1000 - 1450 AD	7.19	3.99	PCS	Bradley	Convex	None	UM	0.0000	None	Stone	Peabody Museum Number 78-6-10/15958
85	Grave 27, Arnold Site, Williamson County, Tennessee	1000 - 1450 AD	5.41	3.33	PCS	Bradley	Convex	None	UM	0.0000	None	Stone	Peabody Museum Number 79-4-10/18250
35	Kibby Plantation, Adams County, Mississippi	US	6.10	0.00	PCS	Bradley	Convex	None	Flat	0.0000	None	Stone	Penn Museum Object 14376
32	Tensas Mound, Louisiana	US	6.10	0.00	PCS	Bradley	Convex	None	Flat	0.0000	None	Sandstone	Penn Museum Object 14386
24	Philips County, Arkansas	US	9.53	4.45	PCS	Bradley	Convex	None	Flat	0.0000	None	Hard, yellowish quartzite	Moorehead 1900: 166
143	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	PCS	Bradley	Convex	None	UM	0.0000	None	Stone	Smith 1910: Plate XLIII
237	Toqua Site, Monroe County, Tennessee	1700s	11.75	0.00	PCS	Bradley	Convex	None	UM	0.0000	None	Stone	Roberts 1987: 794
13	Walls, Mississippi	US	US	0.00	UC	Bradley?	Convex	None	UM	0.0000	None	Pudding stone	Brown 1992: 167
206	Craig Mound, Le Flore County, Oklahoma	900-1450	11.30	3.18	PCS	Bradley?	Planar	None	UM	0.0000	None	Stone	Sievert and Rogers 2011: 160
239	Hiwassee Island, Meigs County, Tennessee	Dallas Component	4.50	0.00	UC	Bradley?	Convex	None	UM	0.0000	None	Stone	Thruston 1890: 121
240	Hiwassee Island, Meigs County, Tennessee	Dallas Component	4.00	0.00	UC	Bradley?	Convex	None	UM	0.0000	None	Stone	Thruston 1890: 121
53	Cavetown, Washington County, Maryland	US	8.26	0.00	PCS	Bradley?	Convex	None	Sloping	0.0000	None	Stone	NMNH Accession Number 197535
71	Troup County, Georgia	US	5.84	0.00	UC	Bradley?	Planar	None	UM	0.5000	None	Stone	NMNH Accession Number 13740
202	King Site, Floyd County, Georgia	Mid 1500s	4.60	1.90	UC	Bradley?	Convex	None	UM	0.0000	None	Stone	Halley 2008: 237
81	Grave Mound, Sevier County, Tennessee	1000 - 1600 AD	4.29	2.24	UC	Bradley?	Convex	None	UM	0.0000	None	Stone	Peabody Museum Number 985-27-10/76050
235	Chauga Site, Oconee County, South Carolina	1000-1700s	US	0.00	UC	Bradley?	Convex	None	UM	0.0000	None	Stone	Kelly and Neitzel 1961: Plate IX
196	Aztalan Site, Jefferson County, Wisconsin	Mississippian	7.40	0.00	PCS	Cahokia	Concave	None	UM	0.1250	None	Stone	Barret 1933: 277
176	Shiloh Site, Tennessee	US	US	0.00	PCS	Cahokia	Concave	None	UM	UM	None	Stone	Welch 2005: 92
177	Shiloh Site, Tennessee	US	US	0.00	PCS	Cahokia	Concave	None	UM	UM	None	Stone	Welch 2005: 92
9	Pontotoc County, Mississippi	US	US	0.00	PCS	Cahokia	Concave	None	Arched	0.1250	None	Light colored, close-grained stone	Brown 1992: 163
10	Cross Roads in Lee County, Mississippi	US	7.24	1.91	PCS	Cahokia	Concave	None	Flat	0.1250	Two diamond shapes with central pits on one face, large diamond with pit corresponding to center of stone on opposite face	Stone	Brown 1992: 164
142	Blain Site, Ohio	After Late Woodland	6.20	2.60	PCS	Cahokia	Concave	None	Arched	0.1250	None	Fine-grained granite	Prufer and Shane 1970: 117
193	Lake George Site, Yazoo County, Mississippi	Mississippian	7.50	2.00	PCS	Cahokia	Concave	None	Arched	0.2500	None	Stone	Williams and Brain: 257
194	Lake George Site, Yazoo County, Mississippi	Mississippian	6.50	1.50	PCS	Cahokia	Concave	None	Arched	0.0625	Cross	Stone	Williams and Brain: 257
43	Fort Ancient, Warren County, Ohio	US	6.60	0.00	PCS	Cahokia	Concave	None	Arched	0.1250	None	Stone	NMAI Catalog Number 6952
55	Gainesboro, Jackson County, Tennessee	US	US	0.00	PCS	Cahokia	Concave	Perforated	Arched	0.1000	None	Stone	NMNH Accession Number 172293
59	Spiro, Le Flore County, Oklahoma	900-1450	5.84	2.16	PCS	Cahokia	Concave	None	Arched	0.1250	None	Marble	NMNH Accession Number 272249
60	Spiro, Le Flore County, Oklahoma	900-1450	6.60	3.05	PCS	Cahokia	Concave	None	Arched	0.2000	None	Sedimentary	NMNH Accession Number 272249
170	Kincaid Site, Illinois	Early Kincaid	US	0.00	PCS	Cahokia	Concave	UM	UM	UM	None	Stone	Cole 1951: Plate XXV
171	Kincaid Site, Illinois	Middle Kincaid	US	0.00	PCS	Cahokia	Concave	UM	Arched	UM	None	Stone	Cole 1951: Plate XXV
169	Kincaid Site, Illinois	Late Kincaid	US	0.00	PCS	Cahokia	Concave	None	UM	0.2500	None	Stone	Cole 1951: Plate XXVI
172	Mill Creek Site, Iowa	Big Sioux/Little Sioux	8.30	0.00	PCS	Cahokia	Concave	None	UM	0.1250	None	Stone	Tiffany 1991: 322
173	Mill Creek Site, Iowa	Big Sioux/Little Sioux	7.80	0.00	PCS	Cahokia	Concave	None	UM	0.2000	None	Stone	Tiffany 1991: 322
113	Moundville, Alabama	Moundville	11.00	2.50	PCS	Cahokia	Concave	Perforated	Arched	0.1250	None	Stone	Museum of Natural History, Rw329
114	Moundville, Alabama	Moundville	5.50	0.00	PCS	Cahokia	Concave	None	Arched	0.1250	None	Stone	Museum of Natural History, Rw333
86	Mound Bottom, Cheatham County, Tennessee	US	7.14	2.06	PCS	Cahokia	Concave	None	Arched	0.1500	None	Stone	Peabody Museum Number 92-37-10/49026
118	Cahokia	US	5.13	0.00	PCS	Cahokia	Concave	None	UM	0.1250	None	Stone	Titterington 1938: 29
119	Cahokia	US	5.75	0.00	PCS	Cahokia	Concave	None	Arched	0.1250	None	Stone	Titterington 1938: 29

Specimen Number	Full Provenience	Date	Max Diameter	Max Thickness	Genre	Style	Face Shape	Face Chars.	Edge Shape	Lip Size	Surface Incisions	Material	Source
120	Cahokia	US	6.88	0.00	PCS	Cahokia	Concave	None	Arched	0.1250	None	Stone	Titterington 1938: 29
233	Chauga Site, Oconee County, South Carolina	1000-1700s	US	0.00	PCS	Cahokia	Concave	None	Arched	UM	None	Stone	Kelly and Neitzel 1961: Plate IX
131	Feurt Mounds, Ohio	US	US	0.00	PCS	Cahokia	Concave	None	Flat	0.1000	None	Stone	Mills 1917: 384
254	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	8.30	3.45	PCS	Cahokia	Concave	None	Arched	0.1875	None	Stone	Fowler et al. 1999: 130
255	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	8.50	3.30	PCS	Cahokia	Concave	None	Arched	0.1875	None	Stone	Fowler et al. 1999: 130
256	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	10.50	4.75	PCS	Cahokia	Concave	None	Arched	0.1875	None	Stone	Fowler et al. 1999: 130
257	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	8.90	3.65	PCS	Cahokia	Concave	None	Arched	0.1250	None	Stone	Fowler et al. 1999: 130
258	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	8.10	3.20	PCS	Cahokia	Concave	None	Arched	0.1250	None	Stone	Fowler et al. 1999: 130
259	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	8.80	3.75	PCS	Cahokia	Concave	None	Arched	0.1875	None	Stone	Fowler et al. 1999: 130
260	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	7.45	3.40	PCS	Cahokia	Concave	None	Arched	0.2500	None	Stone	Fowler et al. 1999: 130
261	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	8.40	3.25	PCS	Cahokia	Concave	None	Arched	0.1250	None	Stone	Fowler et al. 1999: 130
262	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	8.00	3.40	PCS	Cahokia	Concave	None	Arched	0.1500	None	Stone	Fowler et al. 1999: 130
263	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	7.80	3.25	PCS	Cahokia	Concave	None	Arched	0.1500	None	Stone	Fowler et al. 1999: 130
264	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	9.10	3.35	PCS	Cahokia	Concave	None	Arched	0.1875	None	Stone	Fowler et al. 1999: 130
265	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	7.30	3.00	PCS	Cahokia	Concave	None	Arched	0.1500	None	Stone	Fowler et al. 1999: 130
266	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	7.00	3.50	PCS	Cahokia	Concave	None	Arched	0.1875	None	Stone	Fowler et al. 1999: 130
267	Mound 72, Cahokia, Illinois	970 +/- 50, 1020 +/- 55	7.50	2.95	PCS	Cahokia	Concave	None	Arched	0.1500	None	Stone	Fowler et al. 1999: 130
198	Obion Site, Henry County, Tennessee	1050-1300	5.60	4.50	PCS	Cahokia	Concave	None	UM	0.1250	None	Stone	Garland 1992: 95
205	Front Ridge, Cameron County, Louisiana	Mississippian	8.00	0.00	PCS	Cahokia	Concave	None	UM	0.1250	None	Stone	Brown 2015: 97
183	Town Creek Indian Mound, North Carolina	Mississippian	10.00	0.00	PCS	Cahokia	Concave	None	Arched	0.1250	None	Stone	Coe 1995: 284
8	Pontotoc County, Mississippi	US	8.64	2.79	PCS	Cahokia?	Concave	Perforated	Flat	0.1250	None	Stone	Brown 1992: 163
39	Osceola, Mississippi County, Arkansas	US	6.35	0.00	PCS	Cahokia?	Concave	None	Flat	0.1000	None	Stone	NMNH Accession Number 006829
76	Smith County, Tennessee	US	8.74	3.66	PCS	Cahokia?	Concave	None	Arched	0.1250	None	Stone	Peabody Museum Number 22-34-10/G4437
105	Grave 31, Dr. West's Farm, Stewart County, Tennessee	1000 - 1450 AD	6.50	2.90	PCS	Cahokia?	Concave	None	UM	0.1250	None	Stone	Peabody Museum Number 79-4-10/18357.1
33	Natchez, Mississippi	US	6.35	2.54	PCS	Cahokia?	Concave	None	UM	0.3000	None	Stone	Penn Museum Object 14382
199	Self Creek Site, Blount County, Alabama	980-1260	9.30	3.30	PCS	Cahokia?	Concave	Perforated	Arched	UM	None	Stone	Bishop 2016: 59
133	Feurt Mounds, Ohio	US	US	0.00	PCS	Cahokia?	Concave	None	UM	0.2000	Bird foot	Stone	Mills 1917: 386
16	Cumberland River Valley, Kentucky	US	US	0.00	PCS	Cahokia?	Concave	None	Flat	0.1250	None	Black slate	Moorehead 1910: 445
4	???, Georgia	US	14.61	6.35	PCS	Davidson	Concave	None	Arched	0.4000	None	Ferruginous quartz	Jones 1873: 349
5	Mound in Bullock County, Georgia	US	15.24	5.72	PCS	Davidson	Concave	Second Cup	Arched	0.3000	None	Ferruginous quartz	Jones 1873: 349
6	"Sepulchral" Mound in Cass County, Georgia	US	14.61	4.76	PCS	Davidson	Concave	Second Cup	Arched	0.3000	None	Ferruginous quartz	Jones 1873: 349
123	Wolf Island, Mississippi County, Missouri	1000-1600 AD	15.90	0.00	PCS	Davidson	Concave	Second Cup	Flat	0.3750	None	Stone	Brown 2004: 111
75	???, Tennessee	US	14.61	7.62	PCS	Davidson	Concave	Second Cup	Flat	0.3750	None	Stone	NMNH Accession Number 005628
74	McKenzie Town, Carroll County, Tennessee	US	12.95	5.08	PCS	Davidson	Concave	None	Arched	0.3000	None	Stone	NMNH Accession Number 007328
112	Haywood County, North Carolina	1350-1450	13.00	0.00	PCS	Davidson	Concave	None	Arched	0.3000	None	Stone	UNC-RLA Catalog Number 2159a10
221	Mainland Village Site, Loudon County, Tennessee	US	11.18	0.00	PCS	Davidson	Concave	None	Arched	0.3750	None	Stone	Harrington 1920: 265
126	Clay County, North Carolina	US	10.00	0.00	PCS	Davidson	Concave	Second Cup	Arched	0.3750	None	Stone	George 2001: 3
84	Tennessee State Site #40Gn2, Greene County, Tennessee	1000 - 1600 AD	14.45	5.56	PCS	Davidson	Concave	None	Arched	0.3750	None	Stone	Peabody Museum Number 71-5-10/3027
110	Tennessee State Site #40Gn2, Greene County, Tennessee	1000 - 1600 AD	13.89	4.70	PCS	Davidson	Concave	None	Arched	0.4375	None	Stone	Peabody Museum Number 71-5-10/4752
82	Noel Cemetery, Davidson County, Tennessee	1000 - 1600 AD	12.07	4.14	PCS	Davidson	Concave	Second Cup	Arched	0.3000	None	Stone	Peabody Museum Number 78-6-10/13948
34	???, Louisiana	US	16.26	0.00	PCS	Davidson	Concave	None	Arched	0.2000	None	Quartz	Penn Museum Object 14108
18	???, Tennessee	US	US	0.00	PCS	Davidson	Concave	None	Arched	0.4000	None	Quartz/Quartzite	Moorehead 1910: 446
19	???, Tennessee	US	US	0.00	PCS	Davidson	Concave	Second Cup	Arched	0.2500	None	Quartz/Quartzite	Moorehead 1910: 446
20	???, Tennessee	US	US	0.00	PCS	Davidson	Concave	Second Cup	Arched	0.3750	None	Quartz/Quartzite	Moorehead 1910: 446
21	???, Tennessee	US	US	0.00	PCS	Davidson	Concave	None	Arched	0.3000	None	Quartz/Quartzite	Moorehead 1910: 446

Specimen Number	Full Provenience	Date	Max Diameter	Max Thickness	Genre	Style	Face Shape	Face Chars.	Edge Shape	Lip Size	Surface Incisions	Material	Source
22	Hightower River, Cherokee County, Georgia	US	US	0.00	PCS	Davidson	Concave	Second Cup	Arched	0.3000	None	Quartzite	Moorehead 1910: 448
214	Site Jav 155a, Crow Creek Island, Jackson County, Alabama	US	6.35	0.00	PCS	Davidson?	Concave	None	UM	0.3750	None	Stone	Webb and Wilder 1951: Plate 62
7	Vicinity of Vicksburg, Mississippi	US	US	4.57	PCS	Davidson?	Concave	None	Arched	0.2500	None	Light colored sandstone	Brown 1992: 162
122	US	1300-1400 AD	12.70	0.00	PCS	Davidson?	Concave	None	Flat	0.2500	None	Quartz	Brown 2004: 110
216	Hiwassee Island, Meigs County, Tennessee	Dallas Component	US	0.00	PCS	Davidson?	Concave	UM	Arched	UM	None	Stone	Lewis and Kneburg 1946: 121
217	Hiwassee Island, Meigs County, Tennessee	Dallas Component	US	0.00	PCS	Davidson?	Concave	UM	Arched	UM	None	Stone	Lewis and Kneburg 1946: 121
236	Toqua Site, Monroe County, Tennessee	Dallas Phase	US	0.00	PCS	Davidson?	Concave	None	Arched	UM	None	Stone	Roberts 1987: 794
140	Baum Site, Ohio	US	US	0.00	PCS	Feurt	Concave	Perforated	UM	0.2500	None	Stone	Mills 1906: 88
141	Baum Site, Ohio	US	US	0.00	PCS	Feurt	Concave	Perforated	UM	0.1250	Circular lines?	Stone	Mills 1906: 88
41	Fort Ancient, Warren County, Ohio	US	8.38	0.00	PCS	Feurt	Concave	Perforated	Arched	0.3000	None	Stone	NMAI Catalog Number 21/9124
42	Fort Ancient, Warren County, Ohio	US	6.99	0.00	PCS	Feurt	Concave	Perforated	Arched	0.2000	None	Stone	NMAI Catalog Number 21/9125
63	St. Clair County, Illinois	US	7.87	0.00	PCS	Feurt	Concave	Perforated	Arched	0.1250	None	Stone	NMNH Accession Number 019931
73	Frederick County, Maryland	US	10.80	4.45	PCS	Feurt	Concave	Perforated	Arched	0.2000	None	Stone	NMNH Accession Number 006358
37	John H Kerr Reservoir, Mecklenburg County, Virginia	US	8.89	0.00	PCS	Feurt	Concave	Perforated	Flat	0.2500	Radiating lines resembling bird tracks	Stone	NMNH Accession Number 344878
168	Murphey's Old House Site, Pennsylvania	Late Monongahela	6.60	0.00	PCS	Feurt	Concave	Perforated	UM	0.1250	None	Sandstone	George 2001: Fig. 10
162	Hartley Site, Pennsylvania	Middle Monongahela + 6.50	0.00	0.00	PCS	Feurt	Planar	Perforated	Flat	0.0000	None	Sandstone	George 2001: Fig. 6
163	Israel Barclay Site, Pennsylvania	Middle Monongahela + 5.50	0.00	0.00	PCS	Feurt	Concave	Perforated	Flat	0.1000	None	Sandstone	George 2001: Fig. 6
164	Policz Site, Pennsylvania	Middle Monongahela + 7.75	0.00	0.00	PCS	Feurt	Concave	Perforated	UM	0.1250	None	Sandstone	George 2001: Fig. 6
165	Policz Site, Pennsylvania	Middle Monongahela + 6.90	0.00	0.00	PCS	Feurt	Concave	Perforated	UM	0.2500	None	Sandstone	George 2001: Fig. 6
166	Hatfield Site, Pennsylvania	Middle Monongahela + 8.50	3.20	0.00	PCS	Feurt	Concave	Perforated	Arched	0.3750	Animal Head	Sandstone	George 2001: Fig. 8
77	Harmer, Ohio	US	7.77	2.39	PCS	Feurt	Concave	Perforated	Flat	0.2000	None	Stone	Peabody Museum Number 78-52-10/15586
83	Mrs. William's Farm, Stewart County, Tennessee	1000 - 1450 AD	6.35	2.24	PCS	Feurt	Concave	Perforated	Flat	0.2500	None	Stone	Peabody Museum Number 79-4-10/18456
36	Camden, South Carolina	US	10.16	4.76	PCS	Feurt	Concave	Perforated	Flat	0.1000	Radiating lines resembling bird tracks	Quartzite	Penn Museum Object 13556
127	Feurt Mounds, Ohio	US	US	0.00	PCS	Feurt	Concave	Perforated	Flat	0.1250	None	Stone	Mills 1917: 384
128	Feurt Mounds, Ohio	US	US	0.00	PCS	Feurt	Concave	Perforated	Flat	0.1250	None	Stone	Mills 1917: 384
129	Feurt Mounds, Ohio	US	US	0.00	PCS	Feurt	Concave	Perforated	UM	0.1250	None	Stone	Mills 1917: 384
132	Feurt Mounds, Ohio	US	9.20	1.90	PCS	Feurt	Concave	Perforated	UM	0.1250	Bird foot	Granite	Mills 1917: 386
137	Feurt Mounds, Ohio	US	US	0.00	PCS	Feurt	Concave	Perforated	UM	0.2500	Lines radiating from perforation	Stone	Mills 1917: 387
146	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	PCS	Feurt	Concave	Perforated	Arched	0.2500	Cross	Stone	Smith 1910: Plate XLIV
149	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	PCS	Feurt	Concave	Perforated	UM	0.1250	None	Stone	Smith 1910: Plate XLIV
152	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	PCS	Feurt	Concave	Perforated	UM	0.2500	Circle and radiating lines	Stone	Smith 1910: Plate XLIV
154	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	PCS	Feurt	Concave	Perforated	Arched	0.2500	Circle	Stone	Smith 1910: Plate XLIV
155	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	PCS	Feurt	Concave	Perforated	UM	0.4688	None	Stone	Smith 1910: Plate XLIV
158	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	PCS	Feurt	Planar	Perforated	UM	0.0000	Cross	Stone	Smith 1910: Plate XLIV
160	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	PCS	Feurt	Concave	Perforated	UM	0.2500	None	Stone	Smith 1910: Plate XLIV
167	Murphey's Old House Site, Pennsylvania	Late Monongahela	12.35	5.80	PCS	Feurt/Cahokia	Concave	Perforated	Arched	0.2000	None	Brown Quartzite	George 2001: Fig. 10
226	Carter Robinson Site, Lee County, Virginia	1300-1400	3.40	1.52	UC	Feurt?	Planar	Perforated	UM	0.0000	Cross	Stone	Bryant 2019: 80
244	Hiwassee Island, Meigs County, Tennessee	Dallas Component	4.50	0.00	UC	Feurt?	Concave	Perforated	UM	0.3750	None	Stone	Lewis and Kneburg 1946: 121
245	Hiwassee Island, Meigs County, Tennessee	Dallas Component	3.80	0.00	UC	Feurt?	Concave	Perforated	UM	0.3750	None	Stone	Lewis and Kneburg 1946: 121
246	Hiwassee Island, Meigs County, Tennessee	Dallas Component	3.80	0.00	UC	Feurt?	Concave	Perforated	UM	0.5000	Cross	Stone	Lewis and Kneburg 1946: 121
150	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	UC	Feurt?	Concave	Perforated	UM	0.1875	None	Stone	Smith 1910: Plate XLIV
151	Fox Farm Site, Mason County, Kentucky	1200-1550	US	0.00	UC	Feurt?	Planar	Perforated	UM	0.0000	Cross	Stone	Smith 1910: Plate XLIV
182	Town Creek Indian Mound, North Carolina	Mississippian	8.20	0.00	PCS	Feurt?	Concave	Perforated	Flat	0.1250	None	Stone	Coe 1995: 284
58	Spiro, Le Flore County, Oklahoma	900-1450	12.95	6.35	PCS	Jersey Bluff	Concave	None	Arched	0.2000	None	Quartzite	NMNH Accession Number 272249

Specimen Number	Full Provenience	Date	Max Diameter	Max Thickness	Genre	Style	Face Shape	Face Chars.	Edge Shape	Lip Size	Surface Incisions	Material	Source
79	Newton, Hamilton County, Ohio	US	7.14	2.87	PCS	Jersey Bluff?	Concave	None	Arched	0.2500	None	Stone	Peabody Museum Number 86-42-10/41027
106	Grave 31, Dr. West's Farm, Stewart County, Tennessee	1000 - 1450 AD	4.09	2.90	UC	Salt River?	Planar	None	V-Shape	0.2500	None	Stone	Peabody Museum Number 79-4-10/18357.2
11	Grave near Bryant, a short distance from Coffeeville in Yalobusha County, Mississippi	US	US	0.00	PCS	Tuckasegee	Planar, Convex	None	Sloping	0.0000	Flat side has a circle and seven pointed star, convex side has none	Siderite, oxidized on the outside to a thin layer of limonite or brown hematite	Brown 1992: 165
186	Fredricks Site, Orange County, North Carolina	1700	6.80	3.30	PCS	Tuckasegee	Convex	None	Sloping	0.0000	None	Stone	UNC-RLA Catalog Number 2351a6196
185	Leak Site, Richmond County, North Carolina	1150-1400	7.00	4.10	PCS	Tuckasegee	Convex	None	Sloping	0.0000	None	Stone	UNC-RLA, Uncatalogued. Donated by Herbert M. Doerschuk.
190	Tuckasegee Mound, Swain County, North Carolina	1400-1700	7.10	3.00	PCS	Tuckasegee	Convex	None	Sloping	0.0000	None	Stone	UNC-RLA Catalog Number 2162a4-1
191	Tuckasegee Mound, Swain County, North Carolina	1400-1700	10.00	4.00	PCS	Tuckasegee	Convex Planar,	None	Sloping	0.0000	None	Stone	UNC-RLA Catalog Number 2162a4-2
192	Tuckasegee Mound, Swain County, North Carolina	1400-1700	8.00	3.40	PCS	Tuckasegee	Convex Planar,	None	Sloping	0.0000	None	Stone	UNC-RLA Catalog Number 2162a4-3
187	Coweeta Creek Site, Macon County, North Carolina	1400-1700	US	0.00	PCS	Tuckasegee	Convex Planar,	None	Sloping	0.0000	None	Stone	UNC-RLA Catalog Number 2233a5430
184	Madison Site, Rockingham County, North Carolina	1670-1690	3.00	2.50	UC	Tuckasegee?	Convex	None	Sloping	0.0000	None	Stone	UNC-RLA Catalog Number 2366a99